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ALBERTA NATURALIST

Volume 14, Number 1. March 1984.

Photo: Dick Russell

"Swift fox once again". See article by S. Herrero on pages 29-32.

ALBERTA NATURALIST

Volume 14, Number 1. March 1984.

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Soper was particularly fond of bison but did not care much for wolves, seen in the background of this photograph taken in Wood Buffalo National Park. See article pages 13-14. Photo: L.N. Carbyn

J. Dewey Soper — A Life 1893 - 1982

Introduction by David M. Ealey

This issue of the Alberta Naturalist is dedicated to the memory of one of Alberta's best-known naturalists. His accomplishments were prodigious and during his life he was honoured many times, including being an Honourary Member of the Federation of Alberta Naturalists. In this biography, although his accomplishments are acknowledged, we have attempted to demonstrate facets of the character of this great man.

An appropriate place to begin is in Dewey's own words as written in an early field notebook, at Preston Farm, Ontario, on July 17, 1916. "Unfortunately my time is so taken up with more mundane activities that it has been difficult or practically impossible to pursue zoological collecting and general observations of NATURE (bold letters are Soper's) which is so dear to my heart. Sometime in the future I expect to be giving my life to this world. At least this is my avowed intentions at the present time".

A capsule account of J.D. Soper's life and accomplishments is presented on page 2. The following articles discuss major periods in his life, a bibliography of his published works is included, and further articles are included which relate important events in the natural history of Alberta considered appropriate to accompany Soper's biography. Before all of these articles, though, is a copy of an elegy written by Roland Soper which captures the essence of this great Albertan naturalist.

A capsule history of events and accomplishments in J.D. Soper's life, 1893-1982.

1893 — born May 5, near Guelph, Ontario

1923 — graduated University of Alberta (Bachelor's degree, biology); took first trip north as zoologist aboard government ship "Arctic"

1924 — started two-year study of Baffin Island for National Museum of Canada

1926 — first white man to cross Baffin Island and return

1927 — boundary wildlife study of the southern boundary of the Prairie Provinces

1928 — began another trip to Baffin Island, this time for the N.W.T. and Yukon Branch of the Federal Government

1929 — discovered the breeding grounds of the Blue Goose at Bowman Bay, Baffin Island

1930 — Soper River entering Lake Harbour on Hudson Strait named by Geographic Board of Canada

1932 — Soper Highlands near Nettilung Lake, Baffin Island named by Geographic Board of Canada

1932-1934 — Wildlife Officer studying bison of Wood Buffalo National Park

1934 — became Chief Migratory Bird Officer, Prairie Region

1940 — began periodical field work which continued until 1946 for faunal studies of western National Parks

1942 — awarded Bronze Medal, by Natural History Society of Manitoba for publication "History, Range and Home Life of the Northern Bison"

1944 — involved in United Nations North Pacific Planning Project, northern Alberta

1948 — moved to Edmonton to serve the Yukon and western N.W.T. region

1949 — explored the migratory bird habitat off the Slave and Mackenzie rivers

1950 — explored the migratory bird habitat of the southern Yukon

1952 — retired as Chief Migratory Bird Officer, Yukon and N.W.T.

1957 — Dewey Soper Bird Sanctuary (5,500 km^2) established at Bowman Bay, Baffin Island

1960 — awarded honorary Doctor of Laws, *honoris causa,* from University of Alberta

1961 — became an honorary research associate, Department of Zoology, University of Alberta

1970 — retired as honorary research associate

1978 — presented certificate and plaque by the Commissioner of the N.W.T. for his scientific work and exploration in the north

1980 — presented with Douglas Pimlott Award from the Canadian Nature Federation

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GENERAL

— collected more than 10,000 scientific specimens of mammals and birds

— published two books "Mammals of Alberta" and "Arctic Recollections" as well as numerous scientific articles and newspaper columns

— several subspecies of birds and mammals were discovered by him; some of which bear his name as *soperi.*

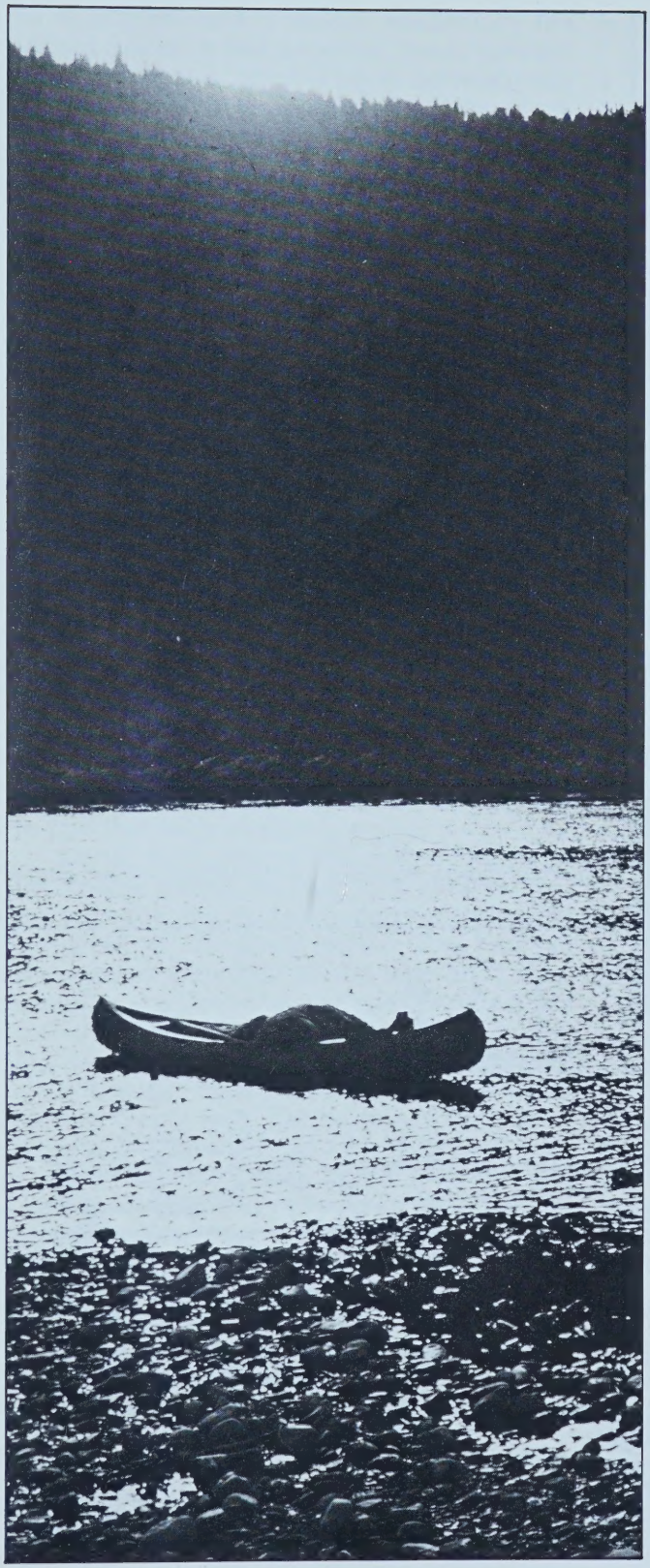


Photo: Dick Dekker

An Elegy

Written in Memory of a Loving Father
by his son, Roland

Dr. J. Dewey Soper
May 5, 1893 — November 2, 1982

Do not grieve
For I am here
In the spirit of all seasons.
I am a kinsman of nature;
A dweller of the wilderness
And a brother to its creatures.

I am here
In the sights and sounds of spring.
The gurgle of newborn streams;
The gabble of geese;
The clusters of crocuses
In the melting snow.

I am here
In the warmth of summer days.
In the serenade of songbirds;
The crackling of a campfire;
The lament of a loon
On a northern lake.

I am here
In the crisp days of autumn.
The whistle of wings over a prairie slough;
The bugling of wapiti;
The call of coyotes
Echoing in mist-lined valleys.

I am here
In the pallid days of winter.
In the brilliance of northern lights;
In the magnificence of the milky way;
In the symbol of sundogs
In the pale blue sky.

My voice
Is echoed by my brethren of the wild.
I have been embraced
Like the soft caress of a summer wind
Into the infinite majesty of nature.
So do not grieve, for I am here.

The Eastern Arctic Years: 1923-1931

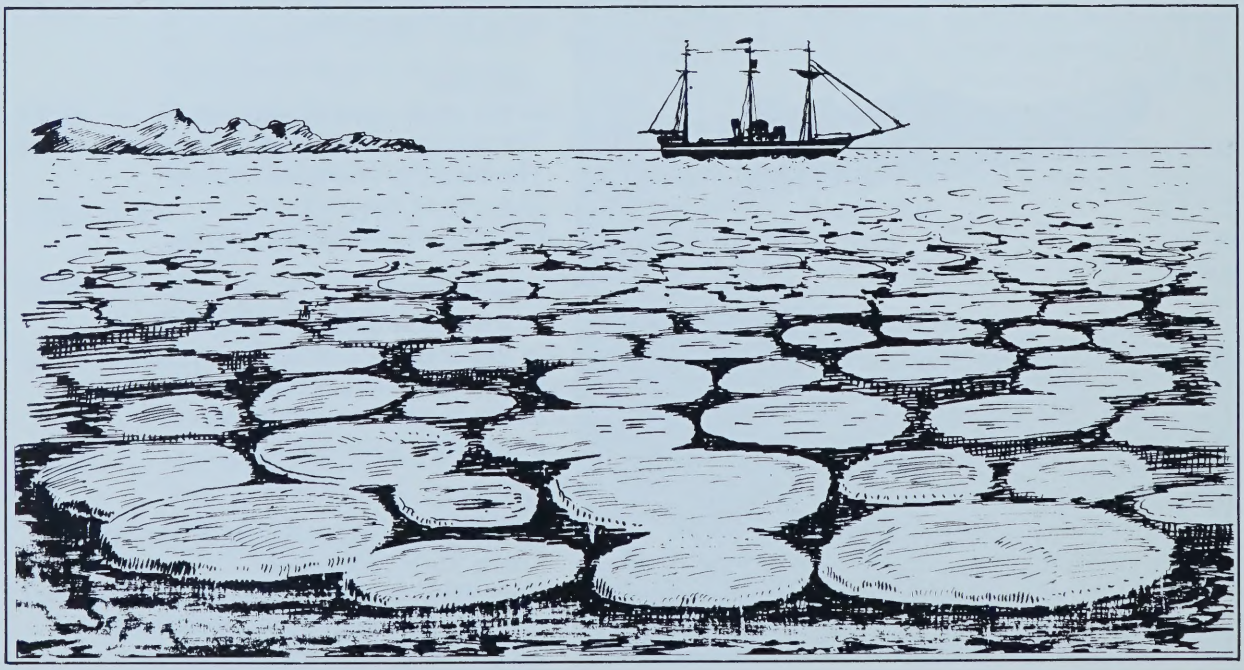
George W. Scotter

As a farm boy in southern Ontario, Dewey Soper made a secret vow that he would visit the far-off lands of the Inuit and polar bear. This deeply rooted yearning was fed by his reading of every available book on arctic exploration.

In the spring of 1920 at Point Pelee, Ontario, he met his first arctic biologist-explorer, Dr. R.M. Anderson, then head of the Natural History Division of the Victoria Memorial Museum at Ottawa. It was through Dr. Anderson's friendship and interest that Dewey received his first arctic assignment. In 1923, after studying zoology at the University of Alberta, Dewey was appointed naturalist to the Canadian Government Arctic Expedition by the National Museum of Canada. The following summer, July 1924, members of the expedition sailed from Quebec City in the renowned old schooner C.G.S. *Arctic* in the charge of Captain J.E. Bernier, a veteran skipper and arctic explorer. The thousands of miles of voyaging that summer to Labrador, to Baffin, Devon and Ellesmere Islands, and to Greenland resulted in hundreds of natural history collections by Soper.

Any object savouring of the unknown stimulates interest, speculation and curiosity. The mystery surrounding the Blue Goose nesting ground had aroused the interest of biologists in general and in particular those, such as Dewey Soper, who had the opportunity for travel in the Canadian Arctic. Bent (1925), in his *Life Histories of North American Wild Fowl* wrote: "The blue goose is one of the few North American birds which we know only

Soper made a number of very fine line drawings. This one shows pancake ice in Hudson Strait, Baffin Island in late July 1924.



J.D. Soper

as a migrant and a winter resident in the United States. It has generally been regarded as a rare species, but it is really astonishingly abundant within the narrow confines of its winter home on the coast of Louisiana.... To find the breeding resorts of the blue goose is one of the most alluring of the unsolved problems in American ornithology." From the beginning of his expeditions in 1923, Soper hoped to solve that mystery.

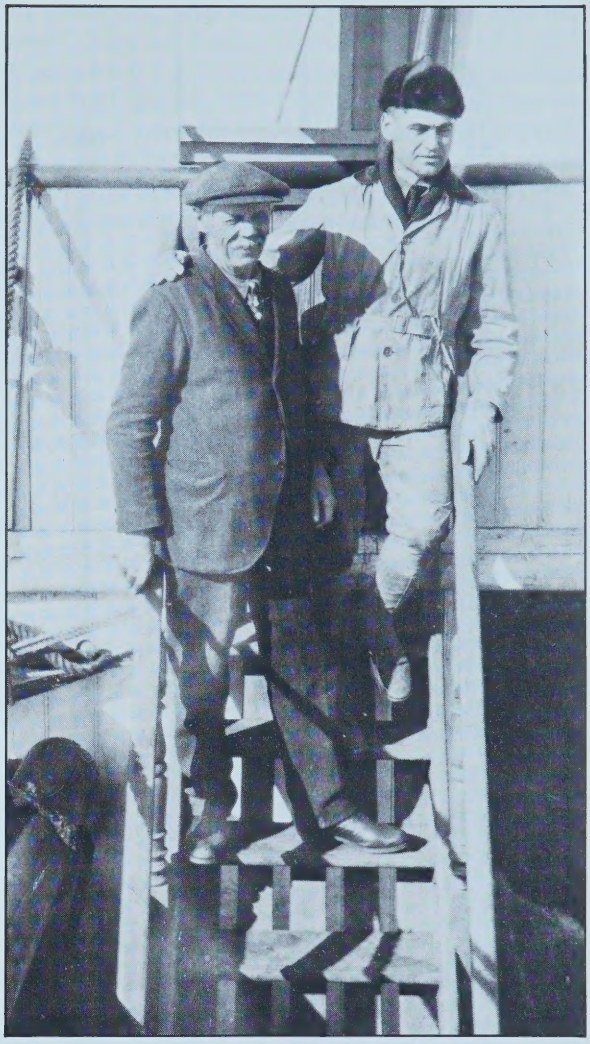
The National Museum of Canada backed Soper's proposed 1924-1926 expedition to southern Baffin Island to, among other aims, find the nesting grounds of the Blue Goose. He arrived at Pangnirtung in late July of 1924 on the schooner *Arctic* and spent the autumn and winter collecting zoological specimens and exploring Pangnirtung Fiord and the upper reaches of Cumberland Sound. During the winter he planned and prepared for a five month expedition to Nettilling Lake; the "Lake of Seals", according to his Inuit helpers.

Five large komatiks were needed, one specially constructed with about a one-meter beam and a length of more than 5 meters to carry a large sail-rigged surfboad for exploration and surveying on Nettilling Lake. Twenty of the finest huskies obtainable were required to pull this large sledge.

On 22 April, after what seemed like an interminable winter, the long trek of about 230 km to Nettilling Lake with a party of eight Inuit and an RCMP Constable started. They reached the eastern extremity of the lake on 5 May, camping at a place that was an age-old favorite with the Cumberland Sound Inuit. The following morning, as agreed, four of the Inuit and all but seven dogs returned to Pangnirtung leaving Soper and his helpers with several months of unpredictable adventure.

The arrival of spring in late May and into June made scientific collecting of animals and plants Soper's chief concern. The remoteness of the region, combined with the pioneering nature of the work, made his researches of great interest and value. One of the highlights from the collections was the identification of a new subspecies of seal that Dr. R.M. Anderson named the Nettilling ringed seal (*Phoca hispida soperi*).

Between 29 May and 8 June considerable numbers of Blue Geese arrived. Soper's hopes were high that they would nest nearby. Those geese, however, disappeared for the duration



Soper and companion on board the "Arctic" near Ellesmere Island, August 1923. J.D. Soper

of the breeding season, a great disappointment to Dewey because finding their breeding grounds was one of the major aims of his expedition.

Wildlife and topographic exploration and mapping of Nettilling Lake and a river draining the lake to Foxe Basin were delayed by ice until 10 August. Those activities continued until it was time to meet the *Lady Borden* at Nettilling Fiord on 21 September for the return trip by sea to Pangnirtung.

The winter of 1925-1926 Soper devoted to long journeys of exploration by dog team, principally into the interior of Baffin Island.

J.D. Soper

Photo: J.D. Soper

Soper spent considerable time in northern Canada adapting readily to the ways of the Inuit. He is seen here dressed in native garments.

Inuit implements from Cape Dorset, Baffin Island, N.W.T. 1. Walrus harpoon. 2. Inuit bird spear. 3. Fish spear or kukkevuk. 4. Seal harpoon.

Various trips, aggregating more than a 1600 km, took him over unexplored routes through the rugged terrain past the head of Cumberland Sound on the north shore of Nettilling Lake beyond the Arctic Circle, and to the western coast of Baffin Island on Foxe Basin. This constituted the first successful crossing and return of the island by a white man.

Those trips were not without hardships. For example, Soper wrote "I still feel extraordinary admiration for the splendid efforts of Akatuga and Newkequak who endured so much fatigue and suffering without a murmur, and what seemed the incredible hardship for the dogs. It is impossible to forget the frightful cold of 70° below zero as we forged our way over the frozen Lake Nettilling and across the Great Plain of the Koukdjuak to Foxe Basin and back to the east coast."

During those trips he questioned the Inuit that he visited about the Blue Goose. Even after two years of residence in the country, that bird remained almost as much a mystery to him as before.

In the spring of 1926 Soper decided to journey by dog team from Pangnirtung to Cape Dorset at the southwestern extremity of Baffin Island, a distance of about 800 km. This arrival at Cape Dorset on 21 May was sufficiently early to permit the observation of any goose migration that might occur there. This proved to be well founded, for early in June large numbers of Blue Geese were seen passing over Cape Dorset, in company with the Lesser Snow Goose. They were flying high in a northeasterly direction as though bound for some relatively distant locality.

At Cape Dorset Soper had the good fortune to meet two Gordon Bay Inuit who, some years before, had found nests of Blue Geese while hunting caribou. They answered Soper's numerous questions and provided a rough map indicating the area on the Foxe Basin coast where the birds were seen. With that encouraging information Soper returned to southern Canada, bringing with him hundreds of collections and observations on the natural history of Baffin Island.

He was sent back to Cape Dorset by the Government of Canada in August 1928, once more to follow the elusive Blue Goose. Nearly the whole of the succeeding winter was spent in traversing and mapping Foxe Basin and the west coast of Baffin Island north to 67° 40'; near which point the courageous Hantzsch had perished during 1911 while pursuing his interest of ornithology. When spring arrived, Soper was familiar with the territory and could select the best route by which to reach his proposed headquarters for the summer.

On 17 May 1929, he left Cape Dorset for the Blue Goose grounds with four sledges, forty-two dogs, and five Inuit drivers, carrying sufficient food and equipment for a stay of three months in the interior. On 25 May three of the Inuit with all the dogs and sledges started on the long trail back to Cape Dorset. The other two Inuit were retained as assistants for the summer. They were now entirely alone; the nearest natives were several hundred kilometers distant. For their safe return from the region they relied entirely on a freighter-canoe with which to navigate Foxe Basin and to travel by rivers and lakes across Foxe Land to Hudson Strait the following August.

The first geese of the season passed over the camp on the evening of 2 June. The next geese were noted on 5 June. Some of these, like the earlier flock, were Blue Geese. By 8 and 9 June thousands of geese were resorting to the bare patches of tundra in the region.

For about ten days Soper searched the region on foot for nests, but without success. Finally, however, on 26 June a small colony of breeding geese with ten nests was discovered on the tundra near Foxe Basin at latitude 63°30'N. Eight of these were nests of the Blue Goose.

On 20 July, the first juvenile Blue Geese of the season were seen. In the course of the next three days, while Soper travelled on the river or camped beside it, he noted several scores of young Blue Geese.

After making detailed observations and scientific collections, Soper and his companions started the journey back to Cape Dorset, where on 17 August, after 28 arduous days that had exhausted the food supply, he ended one of the most thrilling searches in natural history.

Soper's subsequent report on his Blue Goose expedition concludes with the statement "By varied means of progression since 1923, I had traveled a total distance of 30,300 miles. Thus ended the long line of adventures

in the quest of the blue goose."

In 1957, the nesting territory of the Blue Goose on southwestern Baffin Island was set aside by the Canadian government as the Dewey Soper Bird Sanctuary by Order-in-Council 862. This 8100-km^2 sanctuary is located near Bowman Bay, where 28 years before Soper had patiently awaited the arrival of the Blue Geese.

The Government of Canada decided to carry out additional investigations farther east along the north coast of Hudson Strait during 1930 and 1931. Soper was assigned to that one-year project, with headquarters at Lake Harbour. His wife Carolyn and son Roland went with him. Carrie was the first graduate nurse in the Eastern Arctic. In an area without resident doctors, she accepted the responsibility of attending to many of the sick.

At Lake Harbour Soper built his own house and then proceeded to collect specimens of birds, mammals, fish, insects, and plants. He also secured bearings for the construction of a map as well.

During June he surveyed and explored a river due north of Lake Harbour, which up to that time had not been surveyed. The Inuit called it the Koukdjuak River but the Geographic Board of Canada later named it the Soper River and the lake into which the river flows Soper Lake in his honor.

Dewey and his family returned to the south in August, after an absence of thirteen months. Thereafter he completed large numbers of unpublished reports and 29 published papers on the natural history, geography, and people of Baffin Island. His last book, *Canadian Arctic Recollections,* based on his arctic journals, is a lucid account of his day-to-day experiences and discoveries in the Eastern Arctic.

Dewey's abilities were not limited to scientific pursuits. His meticulously detailed field notebooks and some of his publications contain his pen and ink sketches. His paintings from the North were used to illustrate B.A. Hantzsch's *My Life Among the Eskimos.* Many of his excellent photographs from the Eastern Arctic are of historical significance. A collection of his original manuscripts, field notes, paintings, and photographs is deposited at University of Alberta Archives. Additional field notes are deposited with the Zoology Museum, University of Alberta.

Soper said that "I am convinced that most persons who devote themselves extensively to the polar regions come under a peculiar spell, a strangely haunting excitation that never quite withdraws." Certainly he was more strongly smitten by that spell than most.

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Blue and Lesser snow geese in a farm pond near Morris, Manitoba, 1938.

Photo: J.D. Soper

Chief Migratory Bird Officer 1934-1952

David M. Ealey

From 1934 to 1948, Soper was the Chief Migratory Bird Officer for the prairie region, based in Winnipeg. He continued from 1948 to 1950 in the same position for the Yukon and western Northwest Territories, based out of Edmonton. Dewey apparently did not thrive on the administrative duties of his office and took early retirement in 1952, which gave him a freer hand to conduct his own natural history studies.

During his tenure as a civil servant, Dewey was responsible for setting migratory game bird hunting seasons and bag limits, and conducting biological surveys of the western National Parks (some of which no longer exist). Also, in the later years, he embarked on tours of the Yukon and western N.W.T. to identify important migratory waterfowl habitat.

Many of Dewey's concerns for waterfowl populations and their habitat during the 1940's are still valid today, if not more so. At meetings of the North American Wildlife Conference in 1944 and 1948, he reported on the various factors and agency programs that influenced the conservation of waterfowl. Serious problems facing ducks and geese at those times were drought, loss of habitat to agricultural development and a large number of hunters. Drought was of the greatest concern, and Dewey identified failure in breeding and increased botulism during low water years as the results. Hunting of waterfowl declined over the war years but by 1948 a resurgence had occurred and there were over two million North American waterfowl hunters, which was three times the number in 1935 (compare this to about three million in recent years). The constant loss of wetland habitat and upland nesting cover due to agricultural practices was a major concern to Dewey, but he expressed the hope that the over 40,000 water projects under the Prairie Farm Rehabilitation Act as well as the efforts of the "young" organization Ducks Unlimited (formed in 1938) would compensate for these practices by preserving wetlands.

A major positive action of the Dominion Government in waterfowl conservation was in the establishment of migratory bird sanctuaries and the setting aside of protected lands such as federal parks and community pastures. In 1944 there were migratory bird sanctuaries distributed throughout the province and the Northwest Territories. At that time, Dewey expressed a need for more sanctuaries, especially in southern Canada, where waterfowl could rest and feed undisturbed. Currently, there are 82 designated migratory bird sanctuaries throughout Canada. Several large areas from northern Canada have been added to the sanctuaries present in 1944, and there has been a loss of mostly small sanctuaries which have not been on suitable sites for proper enforcement or to allow management. Dewey Soper identified some valuable migratory bird sites in the north during his 1949 boat trip down the Slave and Mackenzie rivers and an aerial survey east and west of the mouth of the Mackenzie River. In 1952, Dewey recommended that the following areas should be set aside for designation as sanctuaries: Mills Lake, Mackenzie River (staging area); Wrigley to Brabant Island, Mackenzie River (staging area); Slave River Delta, Great Slave Lake (staging area); Egg Island, Great Slave Lake (nesting area); Kendall Island, Mackenzie Delta (nesting area); and Anderson River Delta, N.W.T. (nesting area). The last two areas were eventually set aside as sanctuaries.

Other successes by Soper while with the Dominion Wildlife Service were the first major faunal accounts of the western and northern National Parks. In these accounts, Dewey developed a style that characterized his contributions to periodicals and to the Wildlife Management Bulletin Series. Basically, he

Photo: J.D. Soper

Photo: J.D. Soper

Nest of yellow warbler.

Young double-crested cormorants against a background of juvenile pelicans at Lavallee Lake in Prince Albert National Park.

wrote detailed natural history accounts, paying close attention to a thorough description of the climatic, geographical and vegetational features of the areas, and following that with, almost conversational, annotations of the various mammal or bird species that occur in each area. In addition to Wood Buffalo Park, he eventually produced faunal accounts of the Rocky Mountain Parks, Elk Island National Park, Prince Albert National Park, Riding Mountain National Park, and Nemiskam National Park. This last park established at Chin Coulee, in southern Alberta, no longer exists. The land was reserved in 1915 and set up as a National Park in 1922 to provide protected habitat for pronghorn antelope at a time when serious population declines threatened the survival of the species. Thus, the Nemiskam area might be considered Canada's first "grassland national park". It was a typical prairie region with shortgrass habitat on rolling plains accompanied by coulees and badlands. The Nemiskam National Park was cancelled in 1947, because the pronghorn population recuperated well; at that time, there appeared to be no consideration given to the preservation of grasslands as a unique and valuable, natural heritage. Now, in 1984, Canada's grasslands are supposed to be protected in the Grasslands National Park in Saskatchewan, but since the announcement of that park some time ago, there still has not been any land officially set aside by the province of Saskatchewan. Hopefully, in the not-too-distant future, grasslands of the Canadian prairies will be given true, permanent protection. Soper's account illustrates that the value of such areas as part of our natural heritage has been recognized for a long time.

Unlike others who have written accounts of Soper in this issue based on personal knowledge, I met Dewey Soper only once, on the occasion of his acceptance of the Pimlott award in 1980. In the course of writing this article and in speaking to those that knew him, I began to feel that I knew him too, as a kindred spirit with a love of the natural world, and the curiosity of a scientist-explorer. I also felt that naturalists should be very grateful that a man with Soper's motivations was present to oversee the early development of wildlife conservation ethics and management policies in western and northern Canada.

Research Associate, University of Alberta

W. A. Fuller

I do not now remember how I first made contact with Dewey Soper after I came to Edmonton in 1959. It may have been at a meeting of one of the various natural history groups then in existence, or I may have sought him out deliberately. We had been colleagues in the Dominion (later Canadian) Wildlife Service from late 1947 until his retirement in 1952, but in those days of small budgets and restricted travel our trails seldom crossed. At any rate, we did meet, and I discovered that he was still actively collecting material for his "Mammals of Alberta". I also discovered that his specimens were going to the National Museum in Ottawa. After some discussion it became apparent that Dewey would like to see his material remain in the province, and this led to the fruitful and mutually pleasant association of the next 12 years.

The arrangement between Dewey and the Zoology Department provided that, in return for what amounted to a small honorarium plus materials such as cotton, chemicals, ammunition, and labels, Dewey collected what and where he liked and deposited the specimens in the University of Alberta Museum of Zoology (UAMZ). He was given the title of Honorary Research Associate.

Through all the years of active collecting there were two events each year that one could count on, just as one could count on the spring and fall migration of birds. Toward the end of April Dewey would appear to collect his summer supplies. This was usually the occasion for a brief visit during which Dewey would reveal something of his plans for the coming season — always with great enthusiasm and clearly with some impatience to be in the field.

Then just before the snow flew there would be a telephone call to arrange a convenient time to deliver his summer's collection. At the appointed time he would appear with a collection of beautifully prepared study skins — mainly of mammals, but with a few interesting birds as well. This provided a chance for another visit and an all too brief account of a few highlights of the summer's work. In the early years the season's collection exceeded 300 specimens, but by 1971 the total had fallen to 27.

Soper and party camped on the Pine Lake-Conibear trail, Wood Buffalo Park, July 1933.

Photo: J.D. Soper

As Dewey passed his seventieth birthday early in the 1960s, we at the university became concerned about his habit of always travelling alone, even in difficult terrain. Each season we offered to supply an undergraduate student as an assistant and companion, but Dewey always politely declined the offer. We know that our efforts were supported by Carrie, but no matter how carefully and diplomatically we broached the subject our overture was turned aside. I am sure that Dewey never doubted his own ability to survive, and he may have thought that a student still "wet behind the ears" would be a liability rather than an asset.

In the event, there was no cause for worry. At least Dewey never admitted to having been in any danger.

Although Dewey enjoyed talking in a small group of friends about his favourite subjects — wild things and wild places — he refused to speak in public after his retirement from the public service. It was part of an unwritten understanding that his association with the department carried no commitment to appear before a class. We respected Dewey's wishes in that regard, although we regretted that a generation of students had no opportunity to get to know him and hear of his pioneering exploits at first hand.

The Honourary Doctorate awarded in 1960, and the friendly contacts in the museum, led Dr. Soper to deposit much valuable material in the University of Alberta. The diaries of his arctic expeditions are in the Boreal Institute, where they are accessible to scholars and the general public. His catalogues of study skins are in the UAMZ, along with the collecting kit that accompanied him in all his field work, and a small collection of books.

I believe that the last time Dewey was in the museum was on the occasion of his donation of the last of those materials to us. Dewey was already in failing health, but on that visit he was in fine fettle and high spirits. There was a small reception in the museum, but according to the understanding of nearly 20 years, Dewey was not asked to speak. Mrs. Soper, however, seized the initiative, and, speaking from the heart, told the gathering how much the association with the department had meant to her husband.

Through the arrangement with the UAMZ Dewey was able to collect in parts of the province that he had been unable to visit before. He thus documented distributions and range boundaries, particularly in alpine areas. The material was of immediate use to him for the "Mammals of Alberta" (1964), which was in manuscript by the early 1960s. It also provided material for his two 1965 papers on additions to the list of birds of Waterton and Jasper National Parks, and his monographs on the Mammals of Jasper (1970) and Waterton Lakes (1973).

The University benefitted through the acquisition of almost 2500 mammal and bird study skins, note books, diaries, catalogues, and memorabilia. Those of us who had the privilege of knowing Dr. Soper had our lives enriched by the unassuming gentleman who contributed so much to our knowledge of the natural history of our province and our nation.

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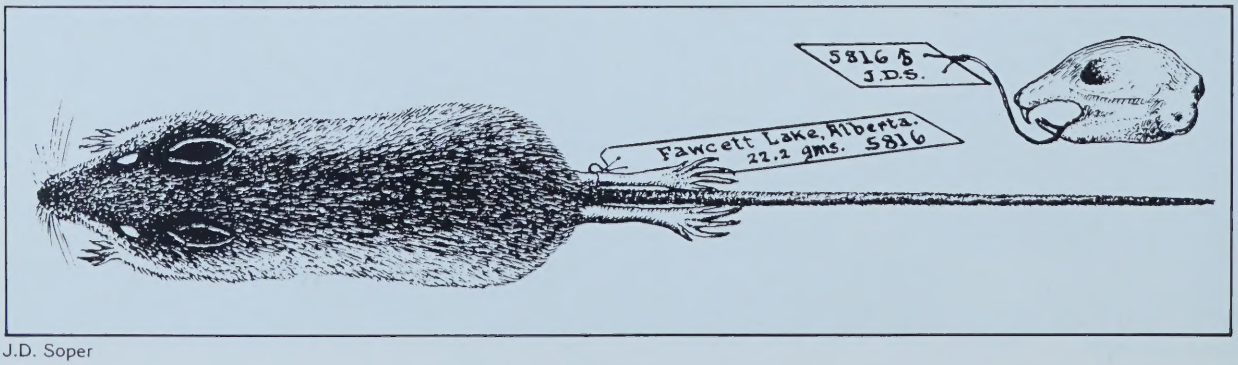
This fine pen sketch, reproduced same size as the original, illustrates the meticulous craftmanship of Soper's specimen.



J.D. Soper

Soper and The Wolves of Wood Buffalo National Park

L.N. Carbyn

My first encounter with Dewey Soper was while I was a student at the University of Alberta. For a time I worked as an assistant curator of the vertebrate collections. I remember being charged with the responsibility of cataloging specimens, and the name J.D. Soper, who had been on contract with the University to collect specimens, kept appearing on the labels of literally dozens of trays full of bird and mammal specimens. I was struck by the neat, meticulous, standardized product that bore his name on the labels. Data on location, size, reproductive status and special notations were all, without exception, entered with great emphasis on details. Finally one day, I got the pleasure of meeting the man. His countenance was marked by a jovial outgoing personality, and an infectious enthusiasm for life. It is, therefore, not hard for me to imagine how effective he was in the field.

Dewey Soper first conducted field work in Wood Buffalo National Park in the spring of 1932 and as he stated the work "was pursued almost incessantly at all seasons of the year until early spring 1934". He travelled by dog team and boat and covered most of the region from the vicinity of Birch Mountain north to the Nyarling and Great Slave Lake, west to Buffalo Lake, the upper waters of Buffalo and Little Buffalo rivers, Thultae Lake and the Jackfish River drainage. Further, shorter trips were made into the park in 1937, 1939, and 1944, with more detailed investigations in 1945.

Soper's trips to the park in the 1930's were focussed on general faunal investigations with some specific studies dealing with the status and life history of bison. A lengthy monograph on bison published in the Ecological Monograph series resulted from that work. The 1945 official instructions for Soper were to study the interrelationships of timber wolves and bison. A report that he had written upon his return from the field was submitted to Ottawa in February 1946.

A large wolf photographed along the Banff-Jasper highway. Photo: H. Fuhrer

The report dealt at length with wolf predation on bison. He concluded that the predator was too numerous and posed a real threat to the bison herds. Soper stated "having correctly reached the conclusion that wolves are everywhere on the increase across the North and that it is desirable to reduce their numbers for certain specific and justifiable reasons, the fundamental objective, then, is to get rid of a goodly percentage of them. At the moment nothing else matters. It is a question of killing wolves. No other issue should obscure this proposition...three dead wolves are better than none and the three are dead, incontestably dead. They are beyond the powers of reproduction and destruction. If we want wolves, does it much matter within reason how they become defunct? The point as I see it under the circumstances, is to momentarily set aside some of the disputations of the situation and go straight to the objective — reduction of the wolf population. The answer is comparatively simple — 'kill them'."

It is interesting to speculate about what accounted for such a position by a man who dedicated his life to zoology and the out-of-doors. Three factors probably were important. Firstly, he repeatedly showed his great affection for the wood bison. That comes through strongly in his writing. Bison were more visible, and without the aid of modern technology such as radio collars, wolves were rarely seen. The evidence of their presence mostly resulted from an examination of kills. Wolf kills show evidence of struggles, often after prolonged and cruel altercations. Secondly, Dewey Soper was a practical man who dealt with practical people. People living in the bush have to survive. Killing wolves is a natural response to dealing with a competitor for the same resources. Soper, on several occasions in the report, expressed his sympathies for those living in the bush, (particularly native) and it is interesting to note that not once is Ernest Thompson Seton mentioned. Seton was a natualist who earlier travelled through the park and concluded that "the most menacing predator of bison are the two-legged kind". Dewey Soper grew up in a rural setting and that could have influenced his thinking as well. Thirdly, one could speculate that political pressures at the time dictated that the government should kill wolves, and there would have been little political support for the protection of these predators. Overriding all these considerations, however, was a very deep love for the wood bison, so a practical mind fostered a romantic notion.

Today, wolves in Wood Buffalo National Park continue to prey heavily on bison. Parks policy dictates that the predators have as much right to exist as the prey and that predation is to be accepted as part of the natural selection process operating in as pristine an ecosystem as could be envisioned. Although I have found nothing in Dewey Soper's subsequent writings to determine his later thinking on predator control, I suspect his attitudes towards wolves may have mellowed over time. He certainly had a strong fondness for dogs, as shown by an excellent article written on Eskimo Dogs of the Canadian Arctic.

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Publications of J. Dewey Soper

compiled by George W. Scotter

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— **1921b.** Gleanings from the Canadian West. — Part I. Avian Fauna of Islay, Alberta. Canadian Field-Naturalist 35(3):50-54.
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— **1921d.** Notes on the Snowshoe Rabbit. Journal of Mammalogy 2(2):101-108.
— **1921e.** Malformed hind foot of the Common House Mouse (*Musmusculus*). Journal of Mammalogy 2(4):237.
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— **1923b.** The rare *Napaeozapus insignis*. Journal of Mammalogy 4(2)127.
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— **1928.** A faunal investigation of Southern Baffin Island. National Museum of Canada, Bulletin 53, Biological Series 15. 1-143 pp.
— **1929.** Discovery of the nesting grounds of the Blue Goose. Transactions, American Game Conference 16:72-82.
— **1930a.** Discovery of the breeding grounds of the Blue Goose. Canadian Field-Naturalist 44(1):1-11.
— **1930b.** Explorations in Baffin Island. Geographical Journal 75(5):435-443.
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— **1930d.** Adventuring in Baffin Island. Canadian Geographical Journal 1(3):191-206.
— **1930e.** The Blue Goose. Department of Interior, Ottawa. 1-64 pp.
— **1930f.** The explorations of J.D. Soper, 1924-1926. *In*: Southern Baffin Island, Department of the Interior, Ottawa. pp. 67-83.
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— **1934f.** A waterfowl reconnaissance of Wood Buffalo Park, Alberta and the Northwest Territories, Canada. Maryland Conservationist 11(2):3-7.
— **1936a.** The Lake Harbour region, Baffin Island. The Geographical Review 26(3):426-438.
— **1936b.** Intimate glimpses at Eskimo life in Baffin island. The Beaver 266(4):34-39, 64-65; 267(1):9-12,66.
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— **1942d.** Life history of the Blue Goose *Chen caerulescens* (Linnaeus). Boston Society of Natural History 42(2):121-225.
— **1943a.** A method of remaking old bird skins. The Auk 60(2):284-286.
— **1943b.** Nesting of the Philadelphia Vireo near Winnipeg, Manitoba. Canadian Field-Naturalist 57(4-5):78.
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— **1944h.** On the winter trapping of small mammals. Journal of Mammalogy 25(4):344-353.
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— **1946c.** Supplementary data concerning the Blue Goose. Canadian Field-Naturalist 60(5):110-113.
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— **1950.** Obituaries: Francis (Frank) La Grange Farley. The Auk 67(2):281.
— **1951a.** Waterfowl and related investigations in the Peace-Athabasca Delta region of Alberta, 1949. Wildlife Management Bulletin, Series 2, No. 2, Canadian Wildlife Service, Ottawa. 63 pp.
— **1951b.** The mammals of Elk Island National Park, Alberta, Canada. Wildlife Management Bulletin, Series 1, No. 3, Canadian Wildlife Service, Ottawa. 24 pp.
— **1951c.** The birds of Elk Island National Park, Alberta, Canada. Canada Wildlife Management Bulletin, Series 2, No. 3, Canadian Wildlife Service, Ottawa. 60 pp.
— **1951d.** Management of bird resources. *In:* Proceedings of the United Nations Scientific Conference on the Conservation and Utilization of Resources. Wildlife and Fish Resources 7:229-231.
— **1952a.** The mammals of Prince Albert National Park, Saskatchewan, Canada. Wildlife Management Bulletin, Series 1, No. 5. Canadian Wildlife Service, Ottawa. 48 pp.
— **1952b.** The birds of Prince Albert National Park, Saskatchewan. Wildlife Management Bulletin, Series 2, No. 4. Canadian Wildlife Service, Ottawa. 83 pp.

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— **1954.** Waterfowl and other ornithological investigations in Yukon Territory, Canada, 1950. Wildlife Management Bulletin, Series 2, No. 7. Canadian Wildlife Service, Ottawa. 55 pp.
— **1957.** Notes on wildfowl of Slave River Delta and vicinity, Northwest Territories. Canadian Field-Naturalist 71(2):74-81.
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— **1975.** Recollections of a naturalist. Manitoba Nature 16(4):38-42.
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Newspaper and Similar Articles

Soper made a great effort to share his findings and knowledge of natural history with the public through his many popular articles. Dewey went out of his way and used the best tools of his time (newspaper articles) to promote conservation and to make people aware of their environment. The following is only a partial list of those endeavors. I would like to acknowledge the assistance of Joe and Mary Bryant, Ottawa; Tom Nudds, Guelph; and Patti Anderson, Edmonton; in helping to locate these references.

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— **1913.** The Least Flycatcher. Prize essay, Natural History Club, Family Herald and Weekly Star, Montreal, P.Q. October 22.
— **1914.** Bird-notes from western Alberta. Natural History Club, Family Herald and Weekly Star, Montreal, P.Q. January 28.
— **1914.** The Western Grebe. Natural History Club, Family Herald and Weekly Star, Montreal, P.Q. July 29. (Authorship not indicated).
— **1921.** Some nature jottings. Guelph Evening Mercury and Advertiser, Guelph, Ont. April 16.
— **1921.** Chronicles of the open. Guelph Evening Mercury and Advertiser, Guelph, Ont. April 23.
— **1921.** Chronicles of the open. Guelph Evening Mercury and Advertiser, Guelph, Ont. April 30.
— **1923.** Edmonton has many winter birds. Edmonton Journal, Edmonton, Alta. February 24.
— **1923.** Kindred of the ranges. Edmonton Journal, Edmonton, Alta. March 10.
— **1923.** Impressions of the Arctic. Edmonton Journal, Edmonton, Alta. December 29.
— **1924.** Protection is given all migratory birds in entire continent. Edmonton Journal, Edmonton, Alta. March 8.
— **1924.** How to build homes for the birds. Edmonton Journal, Edmonton, Alta. March 22.
— **1924.** Animal life abounds in Arctic. Edmonton Journal, Edmonton, Alta. April 12.
— **1938.** A shore-bird rendezvous. Canadian Resources Bulletin 47, Ottawa, Ont. February 19. (Authorship not indicated).
— **1938.** Manitoba goose flight. Canadian Resources Bulletin 51, Ottawa, Ont. March 19, (Authorship not indicated).
— **1939.** Bird life of the southern plains. Canadian Resources Bulletin 106, Ottawa, Ont. April 15. (Authorship not indicated).
— **1949.** Bird study appeals to many as engrossing outdoor sport. Edmonton Journal, Edmonton, Alta. April 11.
— **1949.** Conservation of wildfowl important to whole country. Edmonton Journal, Edmonton, Alta. April 14.
— **1950.** Managing bird resources. Edmonton Journal, Edmonton Alta. April 13.
— **1951.** Seek to solve bird migration. The Albertan, Calgary, Alta. April 12.
— **1951.** Our wildlife resources. Edmonton Journal, Edmonton, Alta. April 13.
— **1952.** So the birds will return. The Third Column, Edmonton Journal, Edmonton, Alta. April 7.
— **1952.** The beneficial birds. The Third Column, Edmonton Journal, Edmonton, Alta. April 10.

Unpublished Manuscripts Relating to Alberta

The following unpublished manuscripts, on file in the Archives at the University of Alberta, may be of special interest to Alberta naturalists.

Soper, J. Dewey. 1915. An amateur naturalist in the wilds of western Alberta, October to December, 1913. 54 pp. 1 illus., 1 map.
— **1923.** A naturalist in the Rocky Pass Country, Rocky Mountains of western Alberta, September 14 — October 3, 1922. 63 pp. 1 map.
— **1966.** Some mammals of the southern Alberta plains. 23 pp.
— **n.d.** Phenacomys Vole discovered in Elk Island National Park, Alberta. 1 p.

F.A.N. NEWS

Spring Meeting

The Spring Meeting of the Federation of Alberta Naturalists will be held in Stettler on the weekend of May 19-21. Plans are to meet at the Stettler Arena. Numerous good motels and campgrounds are available in the area. The Sunday field trip will be to Charley Bird's farm near Buffalo Lake Narrows. For those who know him, this will be an excellent opportunity to renew acquaintances with a man who has contributed, both through his own efforts and as an inspiration to others, a great deal to the natural history of Alberta.

Registration for the meeting will be at 7:00 p.m., Friday, and 9:00 a.m. Saturday. Directors' meeting starts at 10:00 a.m., Saturday. Field trips are planned for others. Local naturalists will present a Saturday evening program. An early morning bird walk is planned for Monday. Those wishing to attend the evening meal on Saturday, a catered meal around $7.00, contact Lloyd Lohr, Box 1414, Stettler, T0C 2L0. The Stettler Arena/Community Centre is on the south side of town near fairgrounds; signs will be posted on Highways 56 and 12.

May Day Count

This annual event will take place on the weekend of May 26-27 this year. Now is the time to start planning your bird, plant or whatever (?) count. Why not invite someone new along on your count this year or think about visiting a new area. Any and all information received from the count is valuable and appreciated.

Annual General Meeting of the Federation of Alberta Naturalists

FAN's Thirteenth AGM was held at Mount Royal College in Calgary on January 21 and 22, 1984. Approximately 35 people attended various facets of the meeting including Saturday bird watching at Glenmore Park and a Sunday field trip to Fish Creek Provincial Park. The meeting itself had the usual plethora of committee reports and discussion on wide ranging topics including such things as the 1988 Winter Olympics in Calgary, recreational use of the Barrhead Sandhills, the Ellis Bird Farm, the Alberta Ornithological Records Committee and logging in the Upper Oldman watershed. The usually dry Board of Directors Meeting was enlivened by a discussion of the proposed amendments to the Wildlife Act.

The Saturday evening program featured presentations and a panel discussion on various aspects of Parks, Wilderness Areas and Ecological Reserves.

Mr. Bruce Leeson, Special Advisor, Natural History Research Division, Parks Canada, provided the perspective on the mandate and management of National Parks. In his talk, he illustrated the remarkable size of the visitorship to the parks, in particular the four Mountain Parks, and the approaches to management being taken by the Parks Canada staff. He emphasized that public participation has been a very valuable process in determining management strategies. From his remarks it was clear that there will be a strong emphasis on tourism in the future with consideration of park visitors as "guests".

Diane Griffin, Natural Areas Coordinator, Alberta Public Lands, presented an audio-visual program about natural areas, ecological reserves and wilderness areas in Alberta. This program illustrated the diversity of size, type and management approach of these soon-to-be protected lands. At present, no land has been set aside under the revised legislation for the newer categories of natural areas and ecological reserves. Public meetings will be occurring in 1984 (March 21, at Lethbridge Lodge, regarding the Milk River Canyon Reserve) to discuss management plans for these special areas.

Cheryl Bradley, President, Alberta Wilderness Association, discussed preservation of large areas as wilderness tracts. She began her presentation with two definitions of wilderness — a demon-inhabited wasteland of

no benefit to anyone versus an untouched land of natural beauty, serving as a refuge from modern civilization and as a place of contemplation. Changes in the Wilderness Areas Act have caused some concern because of the potential for disposition of wilderness land for mineral exploration and extraction. Another problem with wilderness management is how can areas of relatively undeveloped land in the white zone of the province be protected? There are several government departments that manage land in that zone which makes management of special areas more difficult.

Mike McIvor, Past President, Federation of Alberta Naturalists, made a number of comments on the various kinds of natural heritage lands in Alberta and on management approaches. With respect to the diversity of land classifications, Mike pointed out that what an area is called is not as important as how it is managed. He also expressed the point of view that industrial tourism is *not* part of the role of Parks Canada and that the emphasis on counting the number of people simply passing through turnstiles must be changed. The quality of the Parks experience should not rely on an abundance of facilities. However, Mike did indicate a great lack of alternate parks for those intent on guzzling beer and throwing bottles — he suggested a formalized Yahoo Park could be set aside for these types, preferably in abandoned quarries.

On Sunday morning, prior to the field trip, a workshop was held on the Fish and Wildlife Division's Discussion Paper and the proposed new Act. A number of concerns were aired and a letter to the Assistant Deputy Minister was drafted as a result. This letter is printed later under F.A.N. News.

Excellent weather greeted the participants on the field trip to Fish Creek P.P. It began with an informative slide presentation at the park headquarters about the park and its history, followed by a walk along the creek to see the great blue heron rookery and other aspects of the natural history of the area. Innumerable ducks spend the winter on the open water of the Bow River in the area. Some people who arrived early for the field trip were fortunate enough to see two bald eagles resting in the poplar trees along the river.

President's Report

January, 1984

This has been an active year for FAN, with a number of interesting activities in several committees, in addition to the four major issues with which FAN has been involved.

Although we have the ecological reserves legislation for which we have been pressing for some years, there have been as yet no areas designated under it, so our task in this regard is not completed as yet.

The Wildlife Policy introduced in the fall of 1982 excited considerable discussion and response from FAN, member clubs, and individual members. We now have been given a discussion paper on the proposed revision of the Wildlife Act, which does not appear to be responsive to our comments on the Policy, and we will be taking up the task of responding to this in turn.

The question of Olympic venues for 1988 remains active, although it now appears that the Nordic sites at least will not be contentious. This question continues to be more than one of opposition to the development of Mt. Allan, but one of vigilance on behalf of Lake Louise as well.

During the autumn a surprise announcement of intent to log the Hidden Creek area of the Upper Oldman was made, although this area has long been considered a watershed protection area. To this date the response to protests has been unsatisfactory, but a sizable number of organizations, including several municipalities and cities, are now involved, and it is not impossible that this decision may never be implemented.

This is my last report to you as President. I should like to express my gratitude to all of you for your support, and especially to Dave Ealey. This is perhaps a suitable time also to offer my own special thanks to Charley Bird for having introduced me to FAN in the first place.

Respectfully submitted:
Maryhelen Posey

FEDERATION OF ALBERTA NATURALISTS

Financial Statement for the fiscal year ending December 1983

Receipts

Memberships		
Subscribing	$3,898.00	
Supporting	712.00	
Corporate	218.30	
		$ 4,828.30
Donations		
To F.A.N.	$ 289.00	
Env Co-ord	105.50	
Bluebird Trails	35.00	
		$ 429.50
A Sales	$ 474.02	
B Advertising	68.00	
		$ 542.02
Grants		
Prov. Admin.	$1,900.00	
Prov. Program	1,900.00	
Prov. Leadership	1,900.00	
	1,900.00	
		$ 7,600.00
A Publication	$1,192.37	
B Historical	1,000.00	
		$ 2,192.37
Miscellaneous		
A Bank Int.	$ 924.45	
U.S. Exchange	2.75	
NSF cheque	2.00	
F.A.N. Banquet	151.26	
		$ 1,080.46
		$16,672.65

Disbursements

Clerical	$ 120.90	
Office Supplies	407.45	
Travel Expenses	88.20	
A Phone	271.76	
B Postage	270.71	
C Fees	30.00	
		$ 1,189.02
Programs		
A Print AN	$3,727.54	
B Honorarium	1,050.00	
C Typing	500.00	
Labels for AN	78.82	
		$ 5,356.36
Programs		
A Publication		
Postage	$ 190.99	
C Grants	756.43	
F Environ. Co-ord.	1,650.00	
G Other Projects		
(Fall Out)	1,040.33	
		$ 3,637.75
Leadership		23.00
Leadership		1,527.95
Miscellaneous		
F.A.N. Banquet	$ 209.00	
F.A.N. pins	953.91	
NSF cheques/refund	50.00	
Bank charges	6.00	
		$ 1,218.91
		$12,952.99
Increase		3,719.66
Balance December 31, 1982		12,596.82
		$16,316.48
Current Acc. No. 503680 December 31, 1983		2,138.36
Savings Acc. No. 119905 December 31, 1983		14,178.12
		$16,316.48

Membership Report — January 1984

A breakdown of the current mail-out distribution of the Alberta Naturalist illustrates the categories of F.A.N. membership.

Complimentary	20		
Exchange	31	Free	51
Schools	40	Paid	406
Institutions	36		
Individuals	330	Total	457

Our membership has been declining during these latest months of the economic recession. All members are urged to renew promptly and to pass the membership form on to friends that may be interested in joining F.A.N.

Eileen Coffey

Publications Committee Report — 1983

Only one formal meeting of the Committee was held this year on August 2nd, when the Chairman, Editor and Assistant Editor met with Dick Dekker to discuss a proposed format change and upgrading of the Alberta Naturalist. This involved examples of improved layout, typesetting and more use of photographs among other things. It was agreed to proceed to develop proposed examples and that Dekker would work with the editors on this over the ensuing months. Realistically it was agreed that changes would not be introduced until 1984 with Volume 14, and that the issue dedicated to the late Dewey Soper would be a good one to start with. This issue was therefore delayed and the pool of other available material was advanced for use in the Volume 13 Number 4 issue. Support from the Board was sought at the September meeting for this action and it is hoped that they will be pleased with the result which will mean an increased cost for an improved quality AN!

The Editors are to be commended for bringing out four issues (total of 167 pages) of the AN on time. The last issue included two adverts; the style and size of adverts may have to change with the new format. A 44 page annual supplement was published which included the May Day Counts, the Christmas Bird Counts, and the 1982 Alberta Flowering Dates. For the latter this was the tenth and final year of the operation of the FAN Phenology Project and Charley Bird is to be commended for initiating, coordinating and publishing the results of the ten years of observations.

Special Publication No. 3 was a new venture this year spearheaded by Liz Stinson. "FALL... out! Activities for the Outdoor Classroom" was directed at schools for their use in the fall. It was distributed free to all schools in the province and was a great success and required a second printing when further requests for copies were received. It is hoped that other special issues perhaps for other seasons will be promoted by the Environmental Education Committee. One other special publication is in the works, the production of the ten-year index for the AN which has kindly been prepared by Martin McNicholl.

In closing I would like to especially thank Virginia Young and Dave Ealey, as Editor and Assistant Editor, respectively, for all their work in producing and promoting our publications. Also thanks are due to our mailing crew in Edmonton who so ably provided assistance in seeing our publications were distributed to our membership. This year these were Jean Burgess, Pat and Dick Clayton, Heather Clement, Eileen and Fred Coffey, Joan and Dave Ealey and Derek Johnson.

John M. Powell

From the Editor

I am pleased to announce, effective this issue, Derek Johnson is our new editor. Although a certain amount of arm-twisting was required to enlist his services, I am confident that, under his most capable guidance, we can look for new levels of excellence in the **Alberta Naturalist.**

Volume 14 represents a big step forward, a 'coming of age', for the AN. And what better issue for the change of format than one dedicated to FAN's first Honorary Member, the late Dewey Soper? Dave Ealey is to be commended for organizing the material herein, Dick Dekker is to be credited for the AN's new look, and FAN is to be applauded for the decision to support the considerably higher production costs associated with the new format. Here is the chance for a first-rate Provincial publication, so it's up to the natural history community to ensure this venture succeeds by giving the AN wholehearted support.

I am returning to my home, Oklahoma. However, I have thoroughly enjoyed my association with FAN, and I want to take this opportunity to thank all of you who, through encouragement and cooperation, made working on the AN a pleasure.

Virginia Young,
Past Editor

Committee Report Wilderness, Parks & Natural Areas

This brief committee report will focus on one significant success, on a major shortcoming of the system of protected landscapes in Alberta and Canada, and on one vital management planning process.

The success, of course, occurred in B.C. with the announcement just prior to last year's election, that the proposed Valhallas Wilderness Park would be preserved in its entirety as a Class A Provincial Park. F.A.N. and individual clubs and members supported this proposal. Credit must go to the B.C. government for having the wisdom to finally accept the importance of this area in its unimpaired state and to the Valhalla Wilderness Society which worked so hard and for so long to bring their idea to reality.

The establishment of a new park in another province brings to light a growing failure of our systems of reserved lands. Although we have various pieces of legislation to provide protection and numerous policies to guide management, we are not bringing into those systems the actual land base that is required to fulfill their mandates and functions.

Provincially, we have a relatively new act encompassing Ecological Reserves and Natural Areas but no land designated. Nationally we have a system of parks that appears to have been stalled in its efforts to become truly representative of all Canadian landscapes particularly with respect to the northern park proposals. Furthermore, our country contains natural areas of international significance, with little or no protection. Areas such as the Milk River Canyon, the northern Yukon, and South Moresby are too valuable to lose by default. Governments at all levels should be made aware that the public feels very strongly about the need for a complete and viable system of parks and related reserves. A sense of urgency must prevail if some of our most precious heritage resources are not to be destroyed.

The Four Mountain Park Planning Program continues with the planning team in the process of preparing sets of "alternatives" for public discussion. This is a crucial stage in the formulation of these management plans and all corporate clubs and individual members should take an active part in the proceedings.

We understand that certain members of Parks Canada management are anxious to demonstrate the usefulness of national parks in fostering the growth of the tourism industry. It will be important for us to demonstrate that the public does not wish to sacrifice the long term integrity of national parks to the shortsightedness of bureaucrats or politicians or the greed of developers.

Mike McIvor
Chairman

Fish and Wildlife Advisory Council FAN Representative Report, 1983

As has been the custom in recent years the Council held four two-day meetings during the year, one being a field trip. I attended three of the meetings, while Virginia Young and Liz Stinson ably took my place at the June 8-9 meeting.

The Council underwent some membership change during the latter half of the year which put FAN's membership in doubt for a time. In late summer the Minister requested that one representative come from a joint FAN/AWA seat on the Council. This was contested by both organizations with the happy result that both were given a seat on Council. The newly elected Council for the December meeting included about six groups represented for the first time which included the AWA, SPCA, Alta. Motor Association, Canadian Chamber of Commerce, and Junior Chamber of Commerce. The terms of the Council were also changed slightly including the establishment of a Sub-Committee to look at humane trapping.

The meeting of April 20-21 included discussion on the following topics: Designated Routes, Fish Marketing Task Force; concern

for the negative portrayal of trapping on a worldwide basis and the need for a national fur institute; busting of a poaching ring near Calgary; pros and cons of Bait Stations; Mt. Allan and the 1988 Winter Olympics; Bighorn Sheep die-off in Southern Alberta; retention of shelter belts on abondoned farmsteads; Willmore Wildeness Park; proposed closure of lynx season; Grande Cache-Grande Prairie Highway Proposal; and an excellent overview of the status of the Wilderness Areas, Ecological Reserves and Natural Areas Act by Diane Griffin. Also as an appendix to the meeting Minutes were the resolutions from the 54th Annual Conference of the Alberta Fish and Game Association; proposal from the Commercial Fishermen's Association Zone E; letter from the Alta. Four Wheel Drive Assoc. to the AWA; items sent to the Alta. Trapper's Central Association on the seal hunt and from the International Fund for Animal Welfare; and proposed agenda for 47th Federal-Provincial Wildlife Conference.

The June 8-9 meeting, included the Mt. Allan Olympic Development; hunting regulations for Big Game and Bird Game; wild horse situation; walleye spawning area in Lesser Slave Lake; Bucks for Wildlife; and the Wildlife Act update and status of Resource Plans.

The field trip August 10-11 started in Lac LaBiche with visits to the Fish Plant, sewage lagoons for proposed walleye rearing ponds and the causeway to Sir Winston Churchill Prov. Park. At Wolf Lake discussions were on recreational camping in the Lakeland area with special concern for camping intensity and allocation/protection of the fish resources. After a BBQ in Cold Lake Prov. Park, Don Appleby spoke to the group on "The Community Advisory Committee — What it is and what is does". Day two began with a visit to the site of the new Cold Lake Fish Hatchery, the proposed area for the Marie Lake Grazing Association, and the ESSO Resources heavy oil developments. This was followed by visits to a range improvement program site near Moose Lake, Bonnyville's Town Pond-Buck for Wildlife Project, St. Paul Grazing Reserve, Lychak Habitat Buck for Wildlife Property; goose nesting sites near Akasu Lake and the duck baiting site on Beaverhill Lake.

At the December 14-15 meeting some long awaited major documents were introduced to Council, some of which were distributed to the FAN Board immediately after the meeting as feedback is required by the Minister. These were 1) the Proposed Revision of the Wildlife Act — Discussion Paper: November 1983, 2) Proposed Sheep Outfitters's Policy for Non-Resident Trophy Hunting in Alberta, 3) Status of the Fish and Wildlife Resource in Alberta (the long promised resource plan which provides the framework by individual (exploited) species, with a catch all for most non-game species except those protected by special legislation) and 4) process for the development and public presentation of recreational hunting seasons in Alberta (an exercise to simplify government regulations and the rationale for selected options). Naturalists should present their views on these four documents, ideally immediately, so that concerns can be considered in the followup decision on the final form for these guidelines or policy.

Other topics discussed included the following: a very good presentation by Al Brennan, ADM Alberta Forestry Service on the plans for logging in the Hidden Creek area; update on the 1983 hunting season including the improved access trespass situation since the introduction of posters; need for a definition of 'slough'; the Metis Betterment Act and how it relates to use of fish and wildlife; Sunday hunting; deposition of orphan and abandoned animals; removal of wildlife from urban areas; proposed 1984 Fishing Regulations; and Land Use of Sandhills as a Recreation Natural Area in the County of Barrhead and Improvement District #15. The last item should be considered for support by FAN or some of its Corporate Members.

Two maps which were distributed at meetings which could be of interest were 1) Ecological Reserves and Natural Areas (Proposed and Established) 2) Buck for Wildlife Projects, April 1983.

John M. Powell

Letter to Mr. Dennis Surrendi,
Assistant Deputy Minister, Alberta Fish and Wildlife

Response to Proposed Revision of the Wildlife Act — Discussion Paper: November 1983

Our first reaction to the request to review this document was that the time allowed was grossly inadequate, particularly considering that it included the Christmas holidays. However, since the document is extremely vague, no detailed response is possible, and the time constraints are of less importance.

If real input is to be made into the deliberations concerning revision of the Wildlife Act, it will be necessary to permit us to look at a draft of the proposed legislation itself.

Most sections of the document are so general that it is impossible to determine how they might be implemented; the examples provided are of no assistance, since they are few in number and never include reference to any case which has the potential for difficult decisions or controversy — they are extremely "safe" examples. We can think of others, possible within the phrasing of the discussion paper, though not necessarily intended to be possible under the Act, which are much more disturbing.

The definition of wildlife is particularly important in delimiting the species over which you have effective control. Exotics which have the potential for escaping into the wild, perhaps themselves to thrive and compete with indigenous species, perhaps merely to introduce unknown diseases to indigenous species, do not appear to have been considered. Similarly, it is not clear how you intend to include routinely introduced species such as the Hungarian partidge. You provide no information as to what vertebrates are to be excluded from the definition — fish only, or other categories as well. Conceptually it might be desirable even to include fish, noting that the management of fish is treated under other legislation.

A good deal of wildlife, which is non-vertebrate and difficult for you to include, such as fresh-water sponges, nonetheless require protection. Possibly a separate act covering endangered species, both plant and animal, is required.

Game ranching, as no doubt you are now aware, is a contentious subject. We are concerned about game ranching not only from the standpoint of private/public land use for this purpose, but from more fundamental grounds. Land managed for the benefit of a particular species, especially large mammals, is managed to the detriment of habitat suited to other species normally indigenous to that land, who also deserve our concern. Pressure from game ranchers for increased predator control will be substantial. Populations of animals restricted to an artificial range, especially in the case of non-herd animals such as moose, rarely remain as healthy as free-living populations, and diseases taking hold within such captive populations may spread to free-living populations, posing some risk to the entire species.

In addition, the commercial or quasi-commercial availability of meat and other products from such animals will serve to increase the potential for poaching, which is already difficult to control. We would like also to express opposition to any removal of antlers in velvet from living animals, on the grounds that elsewhere it has been found a) to lead to infection of the stump unless costly veterinarian services are employed to perform the removal; b) to legitimize a market which already contributes substantial incentive to poaching; and c) to be painful to the animals.

Provision must be made to assure that no game ranching of exotics which have the potential to survive should they escape could occur.

Small private zoos and game farms, such as blot the landscape beside the highways in many places in the United States are extremely undesirable. Large, properly run zoos with trained staff do not appear to have difficulty operating under the present constraints.

We are as concerned about fur farms and their proper control as about the ranching of game species.

Ownership of wildlife in North America is public by considerable tradition, and this is

perhaps the greatest contribution to wildlife management that has come out of North America. To alter the status of wildlife on the kind of scale you propose is to set a precedent which is very disturbing. Perhaps our wildlife resources, like our mineral resources, could be leased and management delegated to the landowner in question.

We are very concerned about the possibility of hunting in provincial parks and military reserves. While it is possible that there are parks and reserves which would not suffer from hunting, perhaps even those which could use it as a valuable management tool, the phrasing of this section suggests that if a park or reserve is to be closed to hunting, it will be necessary to put a proposal to that effect through some specific, possibly quite elaborate process; we would prefer the opposite, requiring that such an area be proposed for opening it to hunting, with full details of the rationale provided and the opportunity for comment from those who use the area.

If the proposed amalgamation of the five trust funds is to be carried out, we sincerely hope that it will be with provision for maintning separate accounts for donations to them written into the legislation, so that more than an order-in-council is required to alter what we expect may prove to be a burdensome accounting situation.

White-tailed deer.

Photo: J.D. Soper

We can see no justification for eliminating the categories of night hunting while intoxicated from the Act, to be included under endangering persons provisions, as this will lead to contention in court as to the degree of intoxication, the presence of potentially endangerable persons, and generally make the task of enforcement officers more, rather than less, difficult.

We must commend any effort to increase the number of hunters exposed to Hunter Training Programs, and hope that similar efforts may be expended with respect to trappers and outfitters. Trappers and outfitters in particular should not continue indefinitely to be licensed without being required to demonstrate qualifications for their work, and this requirement becomes more urgent if the regulations governing transfer of licenses permit them to become less subject to direct control of the Division.

With respect to the removal of the requirement for order-in-council for changes to regulations, placing this entirely in the minister's control, we do not see the necessity. In spite of having sought this information, no examples of cases requiring such flexibility have been offered us.

It is a matter of concern that the proposed treatment of amphibians and reptiles, to which we took exception as it appeared in A Wildlife Policy for Alberta, is not discussed at all in this document.

We hope that these comments, general though they are, may afford some opportunity to assess the approach which we shall take to the draft legislation, and may serve to alert you to some dangers we should like to avoid. In particular, whenever any commercially advantageous use of wildlife is under consideration, efforts to assess the potential incentive it might provide for poaching must be made and measures included to offset this incentive.

Thank you for the opportunity to examine this interesting document.

Respectfully submitted,

David Ealey
President FAN

NOTES AND NEWS

Fred Schutz: Recipient of Ninth Loran L. Goulden Award

Frederick George Schutz was presented with the Ninth Annual Loran L. Goulden Memorial Award at the Edmonton Natural History Club annual meeting on January 10, 1984. The presentation of a framed certificate and a cheque was made by John Powell, Chairman of the Award Committee, in recognition of his outstanding contributions to natural history in Alberta.

Among Fred's outstanding achievements recognized by the award were his promoting of "good nature conservancy, that started at home on his farm in the 1940's with the preserving of natural areas. For thirty years his regular column 'West of the Blindman', carried by six local weekly newspapers, has been a respected voice for habitat conservation and outdoor education throughout central Alberta. For involvement with nature conservancy and related groups in developing town historical parks, writing area histories, supporting the Ellis Bird Farm and for contributing articles for natural history and farm publications. Also for holding executive positions or being an active member of a large number of local or provincial groups with an interest in natural history or in preserving the land."

Fred has been active in FAN during the last decade and in a future issue of the AN we hope to present a profile of some of Fred's very varied activities and to include a contribution from him.

John M. Powell,
Chairman Loran L. Goulden Memorial Award Committee

Wilderness Areas and Ecological Reserves

A planning and information meeting of the Advisory Committee on Wilderness Areas and Ecological Reserves was held at the Lethbridge Lodge on March 21. This committee, consisting of six government and six non-government members, receives and considers requests from the public and makes recommendations to the Minister of Alberta Recreation and Parks. The committee acts as an advisory body on matters relating to policy, legislation and the establishment or alteration of reserves. Anyone interested in further information on the meeting, or the activities of the committee itself, or just in wilderness areas and ecological reserves in general is invited to contact the
Coordinator, Ecological Reserves
7th Floor, Standard Life Centre,
10405 Jasper Ave., Edmonton, Alta. T5J 3N4

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Soper hand-colored this photograph of a western grebe in subtle blue and gave the grebe its characteristic red eye. Photo: J.D. Soper

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R.P.W. Foundation Grant

The President and Board of Directors of FAN are pleased to announce that Chuck Moser of the Recreation Parks and Wildlife Foundation has informed them that the Foundation will provide a grant to assist the people of Alberta who had sections of the Blue Bird Trail in 1983. This trail extends in the south from near the Montana border to the north near Barrhead and in the east from Provost to west of Edmonton. FAN has overseen the coordination of this project for the past several years. With this help, the 1983 participants will have part of their travel expenses offset.

ANNOUNCEMENTS

A.S.P.B. Symposium

What's the secret of getting government and public approval for industry projects that are environmentally sensitive?

That's the focus of a Symposium on "Environmental Mitigation: Solutions to Problems" to be held on 24-25 April 1984 at the Westin Hotel, Edmonton, Alberta co-sponsored by the **Alberta Society of Professional Biologists,** the *Energy Resources Conservation Board,* and *Alberta Environment.* As the title suggests, the aim of this Symposium is to focus on what is expected of Environmental Mitigation and how success may be achieved.

Among the eminent speakers which will be featured are: *Hon. Fred Bradley,* Minister of Environment; *Vern Millard,* Chairman, ERCB; *Gordon Pearce,* Coordinator, Slave River Hydro Project, and *Alex Hemstock,* President Elect, Engineering Council of Canada.

A banquet will be held featuring the comic genius *Dave Broadfoot.*

Limited display space is available for companies wishing to display their expertise in the area of environmental mitigation.

For further information or registration forms contact Don Thompson (403) 429-9110 or write the Alberta Society of Professional Biologists, P.O. Box 566, Edmonton, Alberta, T5J 2K8.

CLUB NEWS

Lethbridge Naturalists' Society

The Lethbridge Naturalist Society held their annual Pot Luck Supper in September with a good turn out of members. After a delicious meal of home cooked dishes we adjourned to the Helen Schuler Coulee Centre — named after a late Past President of the Society — to hear a talk and view slides presented by Ken Goble. Ken is a former warden and long time resident of Waterton Lakes National Park so his presentation was enlivened by lots of personal memories.

October was our annual meeting with the election of a new slate of Board Members and this was followed by the showing of members' slides taken over the past twelve months.

Dr. Job Kuijt from the University of Lethbridge was our guest speaker in November. He gave a very interesting talk together with a display of slides about the orchids found in Alberta and also in tropical climes.

Also in November some members made the trip to Apgar in Glacier National Park, Montana, to see the Bald Eagles which gather there for the annual banquet of spawning salmon.

A new feature of our Newsletter is an information sheet and beautiful illustration showing Birds of the Lethbridge Area. We have to thank David Fraser and Michael O'Shea for this contribution.

Joyce Wilkinson
Corresponding Secretary

Calgary Field Naturalists' Society

The Calgary Field Naturalists' Society's year opened with an outstanding talk by Brian Pelshot on The Social Organization of Bears. At our October meeting, Curt Schroeder, who has worked at the Calgary Zoo for a number of years, gave a talk about Zoos and Conserva-

tion. November saw Mr. Orval Pall, Project Manager of the cougar study being carried out in Kananaskis, give a talk about his work. Following December tradition, we had a members' night with members bringing some of their most interesting slides to share with the rest of the group. We also had a Christmas quiz which was won by our former F.A.N. rep. Dorothy Dickson. We were treated to an evening of Snowy Owls in January, with a presentation by Dr. Ross Lein who dispelled a few beliefs associating fluctuations in Snowy Owl populations with availability of lemmings. February brought Dr. Phil Currie from the Tyrrell Museum of Paleontology who talked about the Dinosaurs of Alberta.

Unfortunately, our elected F.A.N. rep. Sally Close, moved away from Calgary, and I will be taking on the duties. This job was exceptionally well done in the past by Dorothy Dickson and the C.F.N.S. would like to thank her for her hard work.

Kate Jones

Edmonton Bird Club

The 1983-84 Friday evening programs of the E.B.C. have featured the following speakers:

October — Bryan Shantz — Bluebirds in Western Canada.
November — Terry Thormin — The Florida Everglades.
December — Gary Erickson — Rare and Endangered Species in Alberta.
January — Tom Webb — Slide show at annual Banquet
February — Len Shandruk — Habitat Enhancement for Wild Birds.
March — Bruce MacGillivray — The Ornithological Program of the Provincial Museum of Alberta.
April — film night.

A most successful club project has continued during this year — the Birding Around Edmonton Series edited by G.R.A. Ebel and Mae Cox. Copies of these pamphlets on birding tips and places to birdwatch in and around Edmonton are available at the John Janzen Nature Centre in Edmonton, or else you can send a stamped self-addressed envelope to Mae Cox, c/o Edmonton Bird Club, Box 4441, Edmonton, T6E 4T5. The titles of the pamphlets in the series have been listed in previous issues of the Alberta Naturalist in the Recent Publications column.

David M. Ealey

Edmonton Natural History Club

The ENHC's season got off to an informative start in September with a timely presentation on **Alberta's Natural Areas, Present and Future Prospects,** with Diane Griffin of the Natural Areas Program of Alberta Energy and Natural Resources. The October program ranged farther afield with Dr. David Dickson from CFNS showing us a slide presentation on the **Mackenzie Barrens** in the Northwest Territories, where he and wife Dorothy have spent some time over the past two summers. Our November meeting was one of the most entertaining the Club has had in some time. Mr. John Bibby enthralled us all with his anecdotal tour along the **West Coast Trail** of Vancouver Island. The December meeting featured Dr. Rand Harrison of the Alberta Research Council speaking on some aspects of **Rocky Mountain Geology.** January 10th was the annual **Members' Night** with a wide range of slides from some of the members recent exploits being shown. **Ghost Moose,** including an award-winning film of the same name, was the topic of the February meeting with Dr. Bill Samuels of the U of A Zoology Department. The presentation delved into the moose-tick association which has been prominently in the news the past couple of winters. March brings Dr. Geoff Holroyd of the Canadian Wildlife Service who will be speaking on the **Wildlife Inventories in Banff and Jasper National Parks.** Steve Zoltai of the Canadian Forestry Service will be our April speaker. His talk will focus on **Potential National Parks in Northern Canada.**

Meetings are held the second Tuesday of the month at 8 P.M. in the auditorium of the Provincial Museum.

J. Derek Johnson

SWIFT FOX ONCE AGAIN

Stephen Herrero

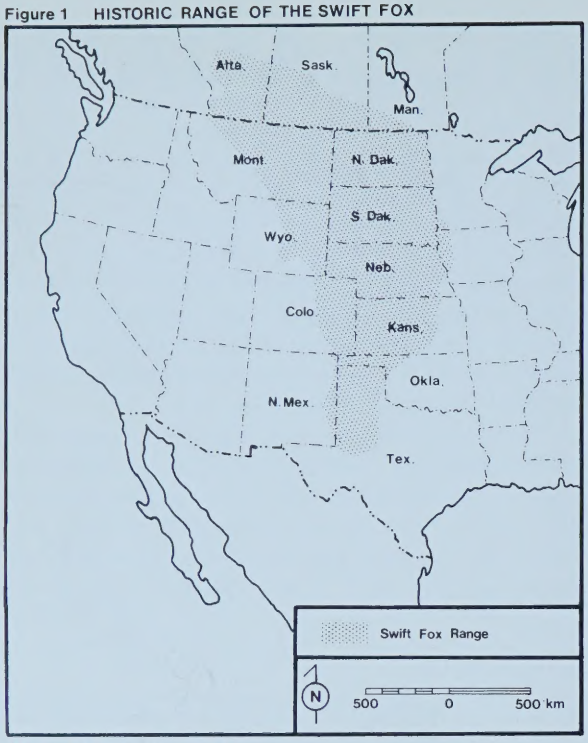
Rockette didn't go very far or very fast. She trotted for about 20 m and then lay down on her belly and looked back at the crowd of about 30 biologists, politicians, ranchers, and press who had come to see the return of the swift fox to the wild. A dozen or so cameras focussed on Rockette and recorded the historic moment. The high speed film, the 1000 mm lenses and the panning heads, brought to catch a quick photo of a fast fleeing fox, all were out of place. The crowd closed in on the fox and she moved slowly off into a coulee. Later in the day when we returned to the site she retreated from the coulee and went back into the pen where she had been born and held captive all her life.

Rockette was the first of 20 swift foxes who were officially released at the Lost River Ranch, southeastern Alberta, on September 13, 1983. We weren't concerned that she didn't go far. She was not quite yet at the age when young swift fox disperse from their

Two swift fox pups in rearing pen. Note radio collar on one of them.

Photo: Jo-Anne Reynolds

Figure 1 HISTORIC RANGE OF THE SWIFT FOX



Map: Jo-Anne Reynolds

underground natal dens. Having worked with these bright and agile little foxes for seven years I knew that when the time was right Rockette and her 19 colleagues would be swift and sure.

Because of their speed and agility we were surprised by the death of Claudia, our most successful breeder in captivity on the Lost River Ranch. On October 4, Miles Scott-Brown, a graduate student working with me on monitoring the dispersal and establishment phases of the programme, went to look for Claudia, mother of four young foxes this year and three last year. As he approached the signal being emitted by her radio collar he expected to either see her or find the signal source rapidly changing location. Neither happened. The signal remained constant and Miles walked toward it. He found Claudia buried beneath detritus. She had apparently been dead for only a few hours. Tooth marks and other clues suggested that a bobcat had killed her. We expected predation to be a cause of death for some of our released foxes but we were disappointed that our best breeder was the first to die.

Live swift fox are appealing little beasts to most people. They are the smallest wild canid in North America. Males average 2.4 kg and females 2.2 kg. They are about three-fourths of a metre long from the tip of the nose to the tip of the tail. Much of their size, however, is due to their coarse hair. Beneath the hair is an animal about as big as a house cat. Coat colour is pale yellow rufous grey in summer with the sides and underbelly being lightest. In winter the coat becomes darker going to a buffy grey colour. The ears are large, pointed and erect, perfect antennae for receiving and locating the slightest sounds emitted by mice. Characteristics which distinguish them from other canids include their smaller size, a black tip on their long, bushy tail, and a black patch on either side of the snout.

Their common name comes from their speed and agility. Despite their small size they can run down and kill mammals as large as jackrabbits. When swift fox still survived in Canada ranchers occasionally would allow dog packs to chase them. The swift fox was usually successful in evading packs of fast running greyhounds. The fox couldn't outspeed these dogs but its ability to leap into the air while running and come down going the other way must have left many coursing dogs falling over themselves. In Alberta swift fox were most often called kit fox. This name, however is more properly applied to a closely related species only found south of Canada.

Swift fox are opportunistic predators and their diet may include small mammals, birds, reptiles, amphibians, fish, insects, vegetation and carrion. Small mammals are of primary importance in their diet and the species eaten vary with availability. At the southern Alberta release site we anticipate that deer mice and cottontail rabbits will be important foods.

Swift fox are primarily nocturnal. Early cowboys on the prairie discovered this because if they left their saddles, bridles or other leather goods out during the night they sometimes awoke to discover swift fox gnawing on them. Because of their nocturnal habit people will be most likely to see them during early morning or evening. Sometimes during the day they bask in the sun near the entrance to their dens.

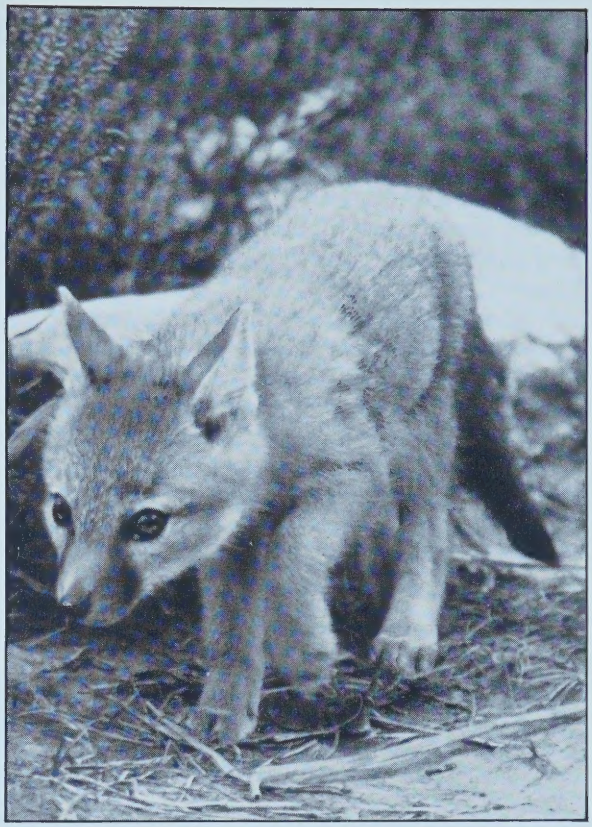
Breeding occurs from January through March, depending on latitude. Most of the young in capitivity in Canada have been born

from mid-April to mid-May. Dispersal takes place in the fall. Because swift fox may breed as early as the first year of life and litters range from one to eight, we are hopeful that if we put them where conditions for life are suitable they will establish themselves quickly.

The swift fox seems to have become extinct in Canada by 1940. The last positive sighting was near Manyberries, Alberta, in 1938. The swift fox was once fairly common in its prairie home (Figure 1). Between 1853 and 1877, the Hudson's Bay Company sold a total of 117,025 swift fox pelts, an average of 4,876 pelts per year. With the settlement of the plains the swift fox waned. Between 1922 and 1925 commercial trapping still continued but an average of only 508 swift fox were taken per year on the Canadian prairies.

Many factors contributed to the decline of the swift fox. Foremost was probably poisoning to rid the prairies of wolves. "Wolfers" would stuff a dead horse or cow with strychnine and later return to collect pelts. Many swift foxes were killed this way. Toward the end of the nineteenth century there were not enough wolves left to support professional "wolfers". However, in "The Wolves of North America" Young and Goldman noted, "there was a sort of unwritten law of the range that no cow man would knowingly pass by a carcass of any kind without inserting in it a goodly dose of strychnine sulfate, in the hope of eventually killing one more wolf." Of course swift foxes were also poisoned. In addition, commercial trapping continued into the twentieth century without regulation and with the economic pressure brought on by the poverty of the great depression. To complete the assaults on the swift fox most of its original habitat was transformed from unbroken prairie to plowed field.

I love the prairies. Since I came to Alberta in 1967 I have sometimes squinted my eyes and let my imagination wander, thinking of what the prairies were like before they were converted to agriculture. I see millions of bison trampelling and eating the grass where I lie and feel the rumble as they run on the ground. I see the elk, pronghorn, wolves, grizzly bears, black-footed ferrets, swift fox and other species, and yet I know that nowhere did this ecosystem survive. I asked myself if some of it could be recreated.



Captive reared swift fox pup. Mature animals are about the size of a house cat. Photo: Dick Russell

Beginning in 1974 I and a graduate student, Ron Millison, looked at the possibility of bringing some of the prairie species back to Canada. Wolves and grizzly bears wouldn't be popular but we thought that the black-tailed prairie dog colonies of the Val Marie-Kildeer region of Saskatchewan could support a ferret population. At the time there had been quite a few recent sightings of ferrets in South Dakota, but after we became interested in getting animals for reintroduction ferret sightings decreased to the point where we couldn't get reintroduction stock.

My thoughts turned to swift fox. In 1973, Miles and Beryl Smeeton retired from over a decade of adventurous sailing around the world. They came to Alberta and sought new adventures on land. They decided to take on the challenge of rearing endangered species in captivity on their ranch near Cochrane. By 1976 I was convinced that their swift fox,

secured from populations which survived in the United States, could be used as the nucleus for a reintroduction into Canada. They supported the idea 100%. I had the foundation to make a dream come true and at the same time would have many pleasurable years working with the Smeetons. Beryl died a few years before the release occurred but her dedication and enthusiasm were important in making it happen.

Another one of my graduate students, Bernie Carlington, took on the job in 1977 of bringing together what was known about swift fox and based on this knowledge identifying the best places in Canada to release them. In 1978 the Canadian Wildlife Service assigned Dick Russell to the project. He has been a major contributor since then. A few years later the World Wildlife Fund of Canada became an important project supporter. Thus a team was formed of people interested in seeing the swift fox living free on the prairies once again.

The goals of our work became more clearly defined and more ambitious. We hoped to establish 3-5 independent, free ranging populations of swift fox on the Canadian prairie. This number would be necessary to help to insure their future against disease, shooting, habitat alteration, poisoning and other mortality factors. Bernie Carlington's work identified several possible release sites in Alberta and Saskatchewan. Bernie graduated and Jo-Anne Reynolds became my graduate student. Her job was to pick the best single release site, help to negotiate for it, and to establish a captive swift fox population there. We had originally hoped that she would be able to monitor the actual release as part of her project but politics conspired to delay our intended release by over a year.

The site where Jo-Anne worked and where the release eventually occurred is close to Manyberries where the last swift fox sighting occurred in 1938. The Lost River Ranch is 88 sections of unplowed short grass prairie. Cowboys still spend a lot of time on horseback and ranches are spaced like insignificant specks on the vast grassland. The Lost River Ranch is owned by Leonard and Mary Jane Piotrowski who not only run a successful cattle ranch but also maintain a quality grassland which produces big pronghorns and mule deer. The short grass prairie, with reasonably abundant prey, seemed the right place for our planned reintroduction. The Piotrowskis enthusiastically supported our efforts and rented us their old farm house for a modest sum. We now had an excellent base from which to work.

During the fall of 1981 pens were built to house four potential breeding pairs of foxes. Jo-Anne took care of them through a pretty tough winter by regularly bringing them dead hatchery chicks and deer and other road kills. By spring three of the pairs had bred producing seven young foxes.

The release was planned for summer of 1982 but we ran into temporarily unresolvable difficulties with the Province of Alberta. Alberta would have jurisdiction over the animals once they were released and so the Province had some concerns. What might be the role of swift fox in transmitting rabies? Would they eat game birds? Would the swift foxes need special protection under the wildlife act? Questions and answers passed back and forth. In the event of a major rabies outbreak the foxes might have to be poisoned, but rabies, most often transmitted by skunks in southern Alberta, hadn't been a problem in our area. Food habit studies showed that foxes seldom ate game birds. The birds need shrubs for cover. Swift fox require short grass and relatively unobstructed views, perhaps to protect themselves from predators. Finally, we satisfactorily answered all the questions and the proposed reintroduction became a reality.

The only question which doesn't have a scientific answer is why reintroduce them at all? What good are they? Do we need them? These are hard questions to answer. I hope that swift fox will provide various benefits for people. Some of us will be pleased just knowing they are there, back home. Others will delight in catching a glimpse of one in evening or morning light, stalking mice amongst the short grasses. The reintroductions should also provide concrete evidence that our environment isn't just being polluted and altered for the worst, but that good things are happening too. If we can learn to share the prairie with swift fox once again maybe it will give us a small measure of hope that we can peacefully share the earth with each other.

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The Ecological Wildlife Inventory Of Banff And Jasper National Parks, Alberta 1974 - 1981

Geoffrey L. Holroyd and Kevin J. Van Tighem

A major inventory of the natural resources of Banff and Jasper National Parks was completed last year. In this article we will chronicle briefly the events which led up to the inventory, the inventory process and the uses of the inventory, specifically the wildlife inventory.

In the early 1970's, Parks Canada embarked on a program to inventory the natural resources of Canada's national parks. Increasing pressure on the land and wildlife in the parks had made apparent the need for detailed information on these resources so that park planners and resource managers could more effectively implement park objectives. Consequently a series of inventories was scheduled to study and classify the parks' landforms, soils, vegetation and wildlife. Initially these various resources were studied separately,

Because of skiing activities near Lake Louise, mountain goats have been forced to use less suitable habitat.

Photo: G. Holroyd

with the result that each separate map and report depicted the landscape differently and no common base map could be created. After the inventories of Waterton Lakes and Yoho National Parks were complete, Parks Canada determined that an integrated team of researchers needed to study the landscape together and produce a single map of the parks with each resource reflected in the map's legend.

In 1974, Parks Canada requested that the Canadian Wildlife Service, Canadian Forestry Service, Alberta Institute of Pedology and the Department of Agriculture cooperate to develop an ecological (biophysical) land classification of Banff and Jasper National Parks. This would allow all resource data to be integrated into one map scheme based on landform, soil, vegetation and wildlife. The role of the land inventory team was to classify the landscape according to the four disciplines and use this land classification to create maps of both parks depicting these resources. The wildlife inventory team's role was to relate the distribution and abundance of wildlife to the land classification map legend.

Soper's work in the 1960's provided us with a good background on the mammals of Jasper National Park but none of his data had been mapped or was related to a habitat map (Soper 1970). A new approach to wildlife inventories was required so that wildlife data could be integrated with a habitat mapping scheme.

The wildlife inventory had two main objectives: (1) to determine the distribution of mammals, birds, reptiles and amphibians within the two national parks and (2) to identify the habitat requirements of wildlife species and relate these to the ecological land classification.

These objectives required us to relate the distribution and abundance of wildlife to each of the land classification units identified by the land inventory team.

The land classification system is a hierarchical way of describing the landscape. In Banff, and Jasper three zones or ecoregions are recognized: montane, subalpine (lower and upper subzones) and alpine. Within each of these ecoregions, land systems or ecosections are identified based on the geomorphic origin on the landforms (alluvial, glacial, colluvial or aeolian). Within each ecosection, ecosites are defined based on surficial expression, soils and vegetation. For example one montaine ecosection which is characterized bv

Many large mammals are killed annually along the highway and railroad in Banff National Park. Elk are one of the most frequent victims.

Photo: G. Holroyd

dry, medium textured soils overlying glacial till, is divided into five ecosites on the basis of surface (ridged or non-ridged), soil (lithic or non-lithic) and vegetation (lodgepole pine forest, Douglas fir forest, aspen forest or wetland). Thus the ecological land classification amounts to a rather elaborate approach to habitat analysis. At a scale of 1:50,000 this analysis is detailed enough to be the basis for descriptions of the habitats of most species of wildlife.

The task of the wildlife inventory was to sample each ecosite for the presence and abundance of each species of wildlife. With over 90,000 mapped units of 120 different ecosites, and over 300 species of wildlife, this was a formidable task. Fortunately many wildlife species can be sampled at the same time by the same method.

Space does not allow a detailed description of the field methodology but the following notes briefly describe some of the techniques. To sample the distribution of ungulates, pellet groups were counted in twenty-five 10 sq m quadrats spaced in a 5 x 5 m grid with an interval of 50 m between sample points. Observation surveys for ungulates were conducted from roads along standardized routes, and ungulates were counted on open areas visible from the roads. Carnivore and ungulate tracks were counted in winter along 0.5 km line transects. Small mammals were sampled by snap traps, live traps and pitfall traps. The live trapping grids were permanently marked to sample small mammal population density and to allow park staff to monitor future changes in these populations. Bats were briefly inventoried in 1980 using echolocation detectors and oscilloscopes. Mustelid live traps were set in several places to determine what mustelid species were actually present. Birds were surveyed by three different techniques: call count surveys to determine the relative abundance of breeding birds on each ecosite, breeding bird census plots to establish actual bird densities in selected habitats, and road surveys to monitor migration. In addition winter birds were recorded on track surveys and Christmas bird counts. Amphibians and reptiles were sampled by systematically searching potential breeding concentrations in the spring of each year.

During the six years of field work a massive amount of information was collected. We sampled 1736 call count transects, over 4600 km of winter track counts, 66,000 snap trap nights, and 2472 pellet group counts. In the process, field crews visited every watershed in both parks and collected 30,000 random observations of wildlife. The data were analysed by computer and after nearly two years of analysis and writing, the 670 page wildlife report was published in 1983.

In Banff and Jasper National Parks, 346 species of wildlife have now been recorded: including 8 species of ungulates, 16 carnivores, 35 other mammals, 281 species of birds, 1 reptile and 5 amphibians. Like Soper, we documented the distribution and abundance for each species. However, with our broad data base and the ecological land classification, the species habitat requirements, seasonal movements and distribution were presented in considerably more detail. Readers who wish more details can refer to our final report (Holroyd and Van Tighem 1983) which is available in major libraries throughout the province. One copy has been given to F.A.N.

This report provides the baseline ecological data required by Parks Canada for resource management, planning and interpretation. Rather than describe the contents of the report in detail, we will give some examples of how the report and data have already been used.

There have been five types of uses of the wildlife inventory: wildlife management, planning, environmental assessment, park interpretation and publications for the public. An example of each will describe the range of uses of the report.

Wildlife management is still evolving in our national parks. In 1978, concern was expressed about the health of the goat population on the Slate Range — immediately east of Lake Louise. In the past at least 65 goats had wintered there each year, and herds of 10 or more were often recorded. Intensive aerial surveys by the Banff warden service found only 26 goats there in 1978-79, all in small groups. What had happened? The locations of goat sightings were compared to where the wildlife inventory predicted they should be. Many of the goats were in the areas predicted. A few were not; they were in avalanche slopes, often one per slope. The wardens agreed this was poor winter goat habitat. Several areas of predicted good habitat were empty, and these

areas were adjacent to the Lake Louise ski area and at Deception Pass, now crossed by a busy cross-country ski trail. The conclusion was that downhill and cross-country ski activity on and near goat range has forced them to move into poor habitat, resulting in a population decline (Jacobson and Loewen 1980). Maps derived from the wildlife inventory data were instrumental in unravelling the probable cause of this goat population decline.

The wildlife inventory has brought another dimension to land use planning in the national parks. Land use in the Bow Valley serves as a good example. The Bow Valley contains two highways, a railroad, the town of Banff, campgrounds, an airstrip and other developments. Together these take up about 12 sq km between the east park boundary and Castle Junction. Unfortunately much of this land is also critical wildlife habitat. The inventory now permits us to determine just how much. Looking at the whole Bow Valley, 8% of the important wildlife habitats in the montane zone are now occupied by human facilities. About one-quarter of the montane aspen forest and grassland are modified for human development. The job of the park planner now is to determine how much is too much.

The wildlife inventory has been used extensively in many environmental assessment reports, most notably the Environmental Impact Statement on the Twinning of the Trans-Canada Highway (Phase 1 and 2). The previous year the park wardens had documented the deaths of almost 200 large mammals on the highway and railroad. The wildlife inventory's maps showed conclusively that the highway and railroad crossed important wildlife habitat and that virtually all of the area adjacent to the section of highway that was proposed to be twinned was critical winter range for ungulates. The solution, as recommended by the Environmental Assessment and Review Panel, was to fence the highway to keep animals off the pavement and to install underpasses and overpasses to allow animals to cross the road.

The Interpretive Section of Parks Canada has used the wildlife inventory as a major information source for developing themes within their interpretive planning units. In addition, inventory data are incorporated now into many slide talks and publications on park wildlife.

Finally some of our data has been published for use by the general public. The publications of greatest interest to readers of Alberta Naturalist are two birders guides in AN 1981 vol. 11 pages 134 to 140 and 1982 vol. 12 pages 18 to 24 and a bird checklist available from Parks Canada.

The ecological land classification and wildlife inventory of Banff and Jasper have helped usher park resource management into a new era. In many ways though, the efforts of pioneering naturalists such as J. Dewey Soper are responsible not only for the level of detailed knowledge already extant in the western national parks, but also for setting the stage upon which modern wildlife inventories evolved.

It is noteworthy — and a tribute to Soper's energy, knowledge and 'wildlife sense' — that the Banff-Jasper wildlife inventory of the 1970's added not one new species of mammal to the list already published by Soper based on his field work twenty years earlier. With teams of up to ten field workers, helicopter support, computers and year-round field work, we contradicted little that Dewey Soper published based on his much more limited field work. Granted, the objectives of our inventory were different and the detailed habitat data and mapping now available were unthinkable in Soper's day. Nonetheless, the passing of J. Dewey Soper represents the passing of the age of the great generalist-naturalists. Without his contributions our inventory would not have had the benefit of a thorough base of historical wildlife data, and all of us would have been much further behind in our knowledge and understanding of Canada's wildlife.

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NATURALISTS BOOKSHELF

FLORA OF ALBERTA
(Second Edition)

by E.H. Moss (revised by John G. Packer). 1983. Univ. of Toronto Press, Toronto. 687 pp. $45.00 cloth.

The long-awaited revised second edition of the **Flora of Alberta** has finally arrived. It would appear that the wait has been worth it. Dr. Packer has produced a highly usable manual, retaining the strengths of the first edition and clearly improving on some of its deficiencies. For its time, the first edition of the *Flora of Alberta* was a remarkable effort, one of the best available, but the advances in knowledge of the Alberta flora since its publication clearly showed the need for an updated flora. Within the recognized limitation of never being able to produce a 'complete' or 'perfect' manual, the second edition has accomplished this updating well. It comes across as a clean, well prepared effort with few obvious errors.

The basic format of the revised edition is essentially unchanged from that of the first. The families are arranged following the 'Englerian system', with the genera and species treated alphabetically within the family. The revised flora treats 1755 species in 547 genera and 113 families compared to the first edition's 1605 species in 499 genera and 104 families. It includes all native and introduced species growing without cultivation in Alberta at the time of publication. Hybrids, especially in the Gramineae, *Populus* and *Betula*, receive more prominence in the revised edition than they did in the first.

The novice will be perturbed by the number of nomenclatural changes in the text, although one must appreciate Dr. Packer's restraint. He could have been far more radical in his revision. The synonomy given is adequate enough so that the reader will not have a problem cross-referencing the name changes with the first edition. However, there may be some problem cross-referencing names with other contemporary floras. This is in part due to differing taxonomic concepts. Nomenclatural changes in the revised *Flora* such as *Sedum rosea* to *Tolmachevia integrifolia* and *Pyrola secunda* to *Orthelia secunda* may surprise many. Numerous name changes have been made in the Compositae. As this is a large and difficult family already, some users may find such changes confusing.

Some minor rearrangement has been made in family order in the non-flowering group, but this should not cause any serious confusion. Other familial changes include the placing of *Juniperus* and *Thuja* in the Cupressaceae, *Parnassia* in the Parnassiaceae, *Philadelphus* in the Hydrangeaceae, *Ribes* in the Grossulariaceae and *Menyanthes* in the Menyanthaceae. These should prove to be minor inconveniences since a number of other floras have treated most of these species in a similar manner for some time.

Keys have been revised to accommodate the additional species and changed taxonomic concepts. Many have been rewritten to improve their utility. All keys are now dichotomous. A significant change from the first edition is the use of bracketed couplets. This has definitely improved the utility of the *Flora*. Alternative leads are immediately juxtaposed, rather than separated by what was at times a considerable distance in the first edition. Keying errors by the user should be reduced by this format. Readers will note significant changes in the keys to the Caryophyllaceae, *Salix, Chenopodium, Draba, Potentilla, Astragalus* and *Epilobium*. Contributions from experts in certain taxonomically difficult genera has added to the overall value of the revision. Unfortunately, a misprint in the key to *Erigeron* will cause added difficulties in this already difficult genus. The second part of the paired couplet under lead 7 should direct the user to couplet 13, not 12 as stated, and the second part of the couplet under lead 11 should direct the user to couplet 12, not 13 as stated.

Species descriptions in many cases have been improved or expanded. Additional information includes habitat, chromosome numbers and North American distribution.

One concern with habitat descriptions is the rather loose use of wetland terminology. There does not appear to be such a habitat as a "fen" in Alberta. Also, the terms "bog", "swamp" and "marsh" appear to be used somewhat interchangeably when indicating a wetland habitat. A more rigorous usage of wetland terms should be applied or at least definitions for these wetland types provided in the glossary.

A welcome addition to the flora is the inclusion of distribution dot maps for all the native species treated in the revision. On first impression, this reviewer was surprised at the small size of the maps, but further study shows them to be quite adequate with few problems in clarity or interpretation. However, I was rather disappointed that distribution maps were not included for the introduced species, particularly some of the rarer ones. It may be a minority opinion, but inclusion of such maps should have been considered.

The inclusion of a section on some notable collectors and authorities for Alberta species is both interesting and informative and provides a nice addition to the *Flora*. One deficiency with the first edition was the glossary. The glossary has been improved in the second edition, but there are still a number of terms the reader will not find definitions for.

Dr. Packer should be commended for his realistic approach to keying, frankly admitting the difficulties in some groups and the deficiencies in taxonomy. Users will appreciate the reduction in the number of native species of *Taraxacum* from three to one. However, genera such as *Castilleja* and *Antennaria* remain confusing groups with numerous intergrades between species.

There are a few aspects to the *Flora* with which one might quibble. Vegetation type information adapted from the *Atlas of Alberta* (1969) is somewhat dated. More current information is available and should have been included in the *Flora* as almost all the other information in the book is up to date. "Athabasca Area" is a rather strange designation for a *vegetation* type.

In the Preface, Dr. Packer states that innumerable books, monographs and taxonomic papers were consulted while revising the *Flora*, but that for the latter two it is hardly possible to cite references. I must disagree; the listed bibliography is woefully inadequate. Some of the nomenclatural changes are radical enough that the reader would like to have access to the references where these changes were made to help in understanding the reasoning for them. While a complete listing may well be impossible, I believe the reader is owed recourse to some of the more important monographs and taxonomic papers. It appears that acceptance or rejection of nomenclatural changes was a rather personal decision on Dr. Packer's part.

While the revised *Flora* is still a rather technical manual and one which the novice may find difficult to use, it has been improved and expanded and should achieve widespread acceptance. When used in conjunction with other floras which include illustrations, it will serve as an important reference book on the Alberta flora.

J. Derek Johnson

Waterlily on "Soper Pool" at Fort Garry, Manitoba.

Photo: J.D. Soper

Field Guide to the Birds of North America

by The National Geographic Society. 1983. Washington, D.C. 464 pp., illus. U.S. $13.00, or U.S. $29.95 (as part of "The Wonder of Birds").

This new book is an ambitious undertaking, incorporating details on more species than any previous guide to North American birds. There is a writeup and at least one color illustration for nearly every breeding species, visitor, regular accidental, and successful introduction, as well as a section on exotic waterfowl. The general format is the one that made Robbins' (*The Birds of North America*) famous — text on one page and illustrations on the page opposite. Range maps are provided for all species except those with very limited ranges. Nomenclature follows the Sixth Editon of the A.O.U. Checklist but taxonomic order is departed from "where it seemed more useful for field reference."

One of the prime concerns regarding a new field guide is the illustrations. In this case, no fewer than 13 artists have contributed to an unprecedented abundance of illustrations, displaying the wide range of plumages within a species including immature, juvenile, nonbreeding, male and female, distinctive subspecies, and color phases. Up to 9 illustrations per species and as many as 6 subspecies per species are shown. Birds are usually not crowded on a page, so that most of the time individuals appear nice and large. For several groups of similar species, there are comparative illustrations, for example, tails of female hummingbirds. Many species are pictured in flight as well as at rest, and sometimes from above as well as from below. Poses for birds at rest are varied in order to show the diversity of distinctive features.

Unfortunately, the wealth of visual material is compromised somewhat by a great variation in style and accuracy of the illustrations. The artwork ranges from stylized cutouts of cuckoos and jaegers to the rounded, chunky figurines of buntings and towhees; from well-done falcons and nuthatches to very poor larks and swallows. Features of similar species pictured in the same plate are sometimes exaggerated (e.g., Dusky and Hammond's Flycatcher), or species are not in relative scale to one another (e.g., vireos on p. 289). In some cases, the distinctive appearance of a species or group is just not captured (e.g., Cedar Waxwing and meadowlarks). Other errors in illustrations include the head and bill profile for the LeConte's Sparrow, the exaggerated extent of the white facial markings on the male goldeneyes, and the upturned bill on the winter Common Loon.

Reproduction is exemplary of the high standards for which The National Geographic Society is known. Plates are crystal clear, with only one in my copy being slightly soft. Colors are mostly realistic and well reproduced, as in the depiction of the three shades of blue for the three bluebird species and the differences in mantle color for the white-headed gulls. The different shades of red, however, in the Painted Redstart and the Slate-throated Redstart come out looking the same in the illustrations, and the eye color of the male Ring-necked Duck should be light but appears dark. Some colors look artificially bright, such as the rufous in the hummingbirds and towhees. A few plates are too subdued, such as the orioles and swallows.

Range maps, with the boundaries of provinces and states shown, are an improvement over Robbins. This has forced the authors to be more exact in range depiction, but at the same time, errors readily stand out. The inclusion of Alberta in the winter range of Rock Ptarmigan and the breeding range of the Pygmy Nuthatch, Chestnut-backed Chickadee and Williamson's Sapsucker constitute errors of commission, since all 4 are either of hypothetical or accidental occurrence in the province. Errors of omission include the absence of breeding range in Alberta for the Great Crested Flycatcher and Blackburnian Warbler, species shown in the last edition of *The Birds of Alberta* as nesting. In a broader context, the greater part of the Canadian range of the Blue Jay is incorrectly shown as only summer-spring. The range map for the Black Oystercatcher has been somehow left out.

The text is often good but tends to be inconsistent or incomplete in the presentation of various categories of information. Also, there are no headings for the categories covered in the text, which would have made for faster reference in the field. Species descriptions include a summary of what the authors feel are

the most important identifying features, and for similar species there is usually a good discussion on how they can be separated. Breeding and sometimes wintering habitat is quite adequately described for most species but is missing or incomplete for many of the gulls, shorebirds and others. Behavior is often noted, but again this is omitted in key situations. For instance, no mention is made of the distinctive flight of the accipiters, or the fact that loons and grebes dive. Nest and eggs are, as a rule, not described, but for a few species nesting locations are given.

Songs and calls are described for most landbirds, but for many other species, including those with distinctive calls, voice descriptions are ignored (e.g., Mew Gull, Northern Shoveler, Marbled Godwit and Pied-billed Grebe). Many of the sound descriptions which are given are particularly poor (e.g., the "eerie fluttering sound" for the winnow of the Common Snipe). Produced as a companion to the book is a record set covering 179 species. These are high quality recordings and of a good length, and are generally superior to those in the Peterson series. It is a pity that more species aren't covered, but at least a number of secretive species and difficult groups (e.g., *Empidonax* flycatchers) have been included. Of some inconvenience, is that the recordings are not automatically included in the purchase of the field guide. In order to get the record set, one must buy a package called *The Wonder of Birds* which also includes a coffee table book and a double-sided poster on migration and bird watching.

Since Peterson's pioneering work, we have made great progress in the identification of birds in the field, and this new book incorporates a lot of recent information. Despite its great potential, the overall presentation does not follow or promote a disciplined approach to field identification, something vital for the beginner. In the end, however, all of the North American field guides exhibit strengths and weaknesses. Exposing the short-comings of this particular work is not meant to dissuade the reader from purchase — on the contrary. If I was to pack a guide around with me in the field, it would be my first choice; but, I think it is more useful for the advanced birdwatcher than the novice.

Cleve R. Wershler

The Audubon Society Master Guide to Birding.

Edited by John Farrand, Jr. 1983. Alfred A. Knopf, New York. 1244 pp. in 3 volumes. $55.50 (18.50/volume).

The Master Guide is one of three "new" field guides to hit the bird-watching market hot on the heels of the 6th edition of the Checklist of North American Birds.

Each volume of the Master Guide consists of three parts. Part 1 is a basic field guide-type introduction. The most important feature of this section is "How to Identify Birds" and "How to Find Birds". These short essays are well worth the reading. Especially note such short points as "To become a successful birder, you may have to change the habits of a lifetime. The best birders rise before dawn, put on drab clothing, go out in all weather, and learn to move carefully and quietly, keeping their *ears open* and their *voices soft.*" (Emphasis mine.) Each of the three volumes has the same introduction repeated. However, Volume 3 has an additional three pages of text entitled "Beyond Bird Identification". These pages, of things to do once identifications have been learned, are also of value to beginning bird watchers. Despite the brevity and simplicity of these three essays, it is a pleasure

Female rock ptarmigan. Baffin Island, July 1929.

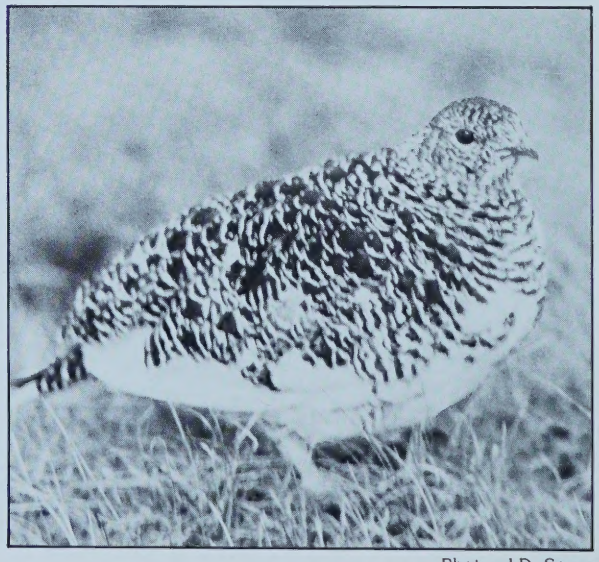

Photo: J.D. Soper

to see something like this in print. However, I do question the need to repeat the same thing in each volume.

I think that this is probably as good a point as any to digress onto the main question I have about these books. I seriously question the need to have three volumes. Surely it was obvious that if a person was to buy one of these volumes, then they would undoubtedly buy the other two. And it follows that many pages of text are therefore needlessly reprinted in each volume. If nothing else, it would surely have sufficed to put all these little essays into one section of one volume.

Just for a moment now, ponder the following quotes from the Master Guide. Number 1: "Rather than present all of this material in a single massive volume, we decided to divide it into three volumes, each of which may be conveniently carried into the field." Number 2: "We hope these guides, with their contributions from many experts, will be what they are intended to be: a master guide to birding."

Now, down to brass tacks. If one is going to take *one* volume into the field, one will have to take *all three*. Therefore, one larger volume would have been more convenient. And if the book is intended to be "... a master guide to birding", then unfortunately a very large volume for home reference is required. It appears to me that a single work cannot accomplish two contradictory purposes. You cannot have a "field guide" and a "master guide to birding" combined into the same tome. I certainly agree that both are needed, but not compiled together and thereby accomplishing the purpose of neither one.

Part 3 has a list of accidentals, glossary, brief history of authors and artists, and index. Volume 3 also has a comprehensive index for all three volumes. Also included here, but distributed between the three volumes are again some brief, but interesting essays including "Classification and Nomenclature", "Birding Equipment", and "Rare Bird Alerts". I would think that these essays have no place in a field guide, but are too short for a "master guide".

Part 2 is the heart of the matter: the list of species. Numerous authors (61 to be precise) contributed to the species accounts. Each species has the expected description, one to three photographs (sometimes paintings only), a very small and vague range map, and a tiny black and white duplicate of the main picture (with red arrows pointing out key features). Some species also have tiny black and white illustrations (particularly note the order *Falconiformes*). There is one point worth noting here; finally recognizable sub-species are treated with more than a just a passing mention. Bravo!

Each species account can basically be divided into four parts for the purposes of this review: text, range maps, photographs, and paintings.

Text — The written text for many species is adequate. (I'm not meaning to damn by faint praise here.) But for others (note the family *Procellariidae*), the text is absolutely great. For each species account the author is listed. Therefore every reader can damn or praise each author as they see fit. I for one would dearly love to meet Ron Naveen for his many accounts in the family *Procellariidae*.

Range Maps — First of all, the maps are very vague with no provincial or state borders shown (except for some restricted species). This can lead to unneccessary vagueness concerning some species' distribution. Some species with a restriced range have a map showing only a few states. This is great. Other, similarly restricted species have the whole of North America shown. This is not so great. There are also some glaring errors in distribution (eg. Double-Crested Cormorant and Blackburnian Warbler).

Photographs — The photographs are the "raison d'etre" for this guide. I love looking at photographs. Even poor ones. But many of the book's photographs just don't come up to snuff. Some are totally blurred, or underexposed, or inappropriate. Some are all of these things (eg. American Bittern and Marbled Murrelet). A large percentage of the photographs are good. However, as much as I like photographs, I seriously question their value in a field guide. Photographs are just not as good as paintings for identification of birds.

Paintings — A phrase I used in my younger years in a totally different context sprigs to mind: They just don't make it. Just look at them (eg. Colima, Grace's and Pine Warblers). Only some are adequate; but none really do it for me. I've always hated to criticize

artists. Even the poorest artist shows more talent than I'll ever know. But I do know what a painting is supposed to do. I am saddened by the overall poor quality art work contained in these books.

I can't resist one more digression. The discussion of taxonomy and nomenclature in Volume 2 leads me to offer my sympathies to all of those who are going to have trouble with all the new names. This may be as hard a situation to adjust to as me adjusting to the metric system. For an excellent discussion on this subject, I refer the reader to the book review on the Sixth Edition of the A.O.U. Checklist of North American Birds (Robert Arbib. 1983. *American Birds* 37: 835, 919-921).

To sum up (finally). About 15 years ago I would have personally sold my sister into slavery in order to possess a field guide such as the one I am reviewing. However, comparing this guide to others that are available, I don't think the "Audubon Master Guide" is worth the cash outlay. I most certainly have bought a copy of these three volumes and consider them a worthy addition to my library. But for someone to buy only one field guide for use "out in the field", this work is not the one. I am truly sorry, because it is such a fine effort. But when you don't make it, you just don't make it.

Wayne W. Smith

Birds of North America — A Guide to Field Identification

By Chandler S. Robbins, Bertel Bruun, and Herbert Zim.
Illustrated by Arthur Singer. 1983. Golden Press, New York. Western Publishing Company, Inc. 360 pp. $9.95.

The revised edition of this guide has been long awaited. The original edition is still considered to be one of the high quality field guides available due to the abundance of well organized information at a low price. A quick glance at other field guides shows the new trend of publishing similar formats. The key to an efficient field guide is one that allows enough information to be passed on to the reader so that a species can be readily identified. This is done by breaking down the subject matter into distinct groups, supplying excellent and relevant illustrations, accurate and up to date range maps and a short and concise written description in an easy to carry copy. Overall, the "revised and expanded" 1983 edition has retained these qualities and removed some weaknesses.

Perhaps the most notable change from the original format is the addition of species now residing in or visiting the fringe areas of North America such as Alaska and the Mexican border. It will be interesting to see how this new information will affect records of sightings in Alberta and other areas. Some sub-species have been illustrated such as the Pacific race of the Arctic Loon and the Bewick's (Old World) race of the Tundra Swan. In total there are eighty new species with illustrations added to the book. Species that have been "joined" such as the Juncos and Rosy Finches are presented in the same format, but as sub-species. Addition of whole new pages such as the Alaskan "peeps" or stints (page 134), the Florida and Alaskan stragglers (page 314) and the Parrots (page 170) have increased the value of the book.

A feature that has been a long time in coming in a popular guide is the name changes. The common names are taken from the American Birding Association (ABA) checklist (Second Edition) in May of 1982. The Latin names are from the Fifth Edition of the American Ornithological Union (AOU) checklist and supplements until May of 1982. Unfortunately, because of this, the most recent checklist has been missed. Names such as Common Flicker are printed and the more recent Northern Flicker are absent.

The species in *Birds of North America* are presented in the old order rather than the latest revision by the AOU to, as the authors put it, "enhance its usefullness as a field guide". I tend to disagree with this statement as it would not take long to learn it.

Most of the illustrations have been reprinted from the original which is in this case, a credit to the artist, Arthur Singer. Very few of these needed to be changed. New titles separate groups and in a few instances the birds have been placed on separate pages, such as the Godwits and Curlews, to avoid confusion. Improvements on colours and details of posture have been made on some birds,i.e.

the Solitary Sandpiper and Curlew Sandpiper. The new illustration of the Gadwall is a welcome improvement. Some species previously drawn with head detail alone have been enlarged to include whole bodies, i.e. the Yellow Billed Loon. The book, however, is occasionally hurt by a lack of care. In the Sanderling and Dunlin, the illustrations have been cut out and reprinted extremely poorly. Some drawings such as the Yellow Billed Loon do not match the high quality of the original illustrations on the same page. Others, such as the Alaskan "peeps" and Godwits do not show Singer's high quality work, as they appear blurry. Most of the colour work has been improved, or at least left as is. In the Hammonds and Western Flycatcher the yellow is greatly exaggerated and may cause confusion. These problems however, are minor and overall the book is extremely well illustrated.

The basic text has included only a few additional identification features. The family descriptions have been tightened up and meaningless description dropped. In this book statements such as "similar to Eastern Screech Owl, but plumage is brown" indicates that there are no red or grey phases in the Western Screech Owl. In the Audubon Society *Master Guide to Birding* the author suggests that a grey phase and a red phase are present. Which is correct?

New range maps have been included and appear easier to use. The white background allows for a cleaner, more precise appearance and determination of location seems easier. By changing the scale of the maps more detail is allowed. Thinner lines are used in presenting material. A key, rather than a written explanation is given for the colours, lines and criss-cross patterns. In general the maps are much the same in content, but where drastic range changes or omissions have occurred, they are added in this edition.

I highly recommend this book as one of the field guides to choose. Where one book falls down, other books can take its place. I was pleased to see most of the changes and only slightly disappointed not to see such works as an immature sparrow or immature shorebird key. I have yet to see a better produced field guide than this or the original.

Dave Elphinstone
Naturalist City of Calgary

Recent Publications on the Natural History of Alberta

Compiled by David M. Ealey

The study of natural history includes all aspects of the natural world around us including plants, animals, soils, geology, climate, even the night sky. In 1983, a total of 252 publication titles were listed. During my tenure as a co-compiler of these publications, there seems to have been an ever increasing frequency of references on natural history of Alberta. In order to make this regular compilation more useful to readers, the reference titles will be grouped under the following appropriate headings: Natural History of Alberta (general articles that do not fit into a specific group), Natural History Observations (combined records such as plants and animals), Naturalists, Geology, Soils, Water, Climate, Astronomy, Paleontology, Non-vascular Plants, Vascular Plants, Trees, Invertebrates, Parasites, Fishes, Amphibians and Reptiles, Birds, Mammals, Parks and Natural Areas, Environmental Education, and Development/Environmental Problems. If there are any sources of natural history articles being missed by this series, please submit titles at any time to the compilers at the F.A.N. P.O. Box.

GEOLOGY:

Fordjor, C.K., J.S. Bell, and D.I. Gough. 1983. Breakouts in Alberta and stress in the North American plate. Can. J. Earth Sciences. 20 (9): 1445-1455.

SOILS:

Kucey, R.M.N. 1983. Phosphate-solubilizing bacteria and fungi in various cultivated and virgin Alberta soils. Can. J. Soil Sci. 63:671-678.

Smith, C.A.S., G.A. Spiers, G.M. Coen and D.J. Pluth. 1983. On the origin of Fe in

some podzolic soils formed on calcareous parent materials in the Canadian Rocky Mountains. Can. J. Soil Sci. 63:691-696.

PALEONTOLOGY:

Binda, P.L. and E.M.V. Nambudiri. 1983. Fossil seed cuticles from the Upper Cretaceous Whitemud beds of Alberta and Saskatchewan, Canada. Can. J. Bot. 61(10):2717-2728.

Quellet, M. 1983. Late glacial molluscs from the Cooking Lake moraine, Alberta, Canada: Discussion. Can. J. Earth Sciences. 20(10):1619-1620.

NON-VASCULAR PLANTS:

Coxson, D.S. and K.A. Kershaw. 1983. Rehydration response of nitrogenase activity and carbon fixation in terrestrial *Nostoc commune* from *Stipa-Bouteloua* grassland. Can. J. Bot. 61(10):2658-2668.

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McElhone, M.J. and R.W. Davies. 1983. The influence of rock surface area on the microdistribution and sampling of attached riffle dwelling Trichoptera in Hartley Creek, Alberta. Can. J. Zool. 61(10):2300-2304.

Richardson, J.S. and H.F. Clifford. 1983. Life history and microdistribution of *Neureclipsis bimaculata* (Trichoptera: Polycentropodidae) in lake outflow stream of Alberta, Canada. Can. J. Zool. 61(11):2434-2445.

Schmid, F. 1983. Revision des Trichopteres Canadiens III. Les Hyalopsychidae, Psychomyiidae, Goeridae, Brachycentridae, Sericostomatidae, Helicopsychidae, Beraeidae, Odontoceridae, Calamoceratidae et Molannidae. Mem. Ent. Soc. Can. No. 125. 109 pp.

PARASITES:

Black, G.A. 1983. *Cystidicola farionis* (Nematoda) as an indicator of Lake Trout (*Salvelinus namaycush*) of Bering ancestry. Can. J. Fish. Aquat. Sci. 40:2034-2040.

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Mackenzie, R. 1983. Mine site reclamation. Environment Views. 6(6):22-24.

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